KNOWLEDGE MANAGEMENT IN PUBLIC SECTOR ORGANISATIONS:

DEVELOPING A PRACTICE FRAMEWORK FOR GHANA

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Abstract

Accomplishing much is not determined by the possession of splendid talents,

but the conscious performance of daily duties **(Adaptation from *Prophets & Kings* by E.G. White)**

Knowledge Management emerged in the mid-1990s as a solution to the challenge of managing intellectual assets in the post-industrial era widely known as *knowledge economy*; which is transforming every sector of the global economy – both private and public. However, the tendency of existing literature to convey Knowledge Management (KM) theories and concepts, and indeed its practices, in predominantly private sector context has created a 'gap' and marginalised the transformational impact of this important field. At the same time the slow rate, and, to a large extent, non-adoption of knowledge management practices within the public sector, particularly in developing countries, is a missed opportunity as long as the status quo is not improved.

This PhD research traces the emergence of the knowledge economy phenomenon, explores knowledge management as an organisational strategy and focuses on how the public sector in developing economies, especially Ghana, can adopt KM strategies and techniques to enhance public administration and performance. More importantly, a KM practice framework is developed encourage its institutionalisation.

Based on the interpretivist research paradigm and a multi-site case study design, seventeen public sector organisations in Ghana and seven in the United Kingdom were studied to collate and synthesize relevant organisational factors and conditions that influence KM. Fifteen factors and conditions were found to provide rationale for KM and to sustain its deployment as a strategic intervention in public sector organisations. These factors and conditions were abstracted into four core categories to define a KM practice framework for the sector.

Theoretically, this study is a significant contribution to public sector KM as the developed framework provides context for the field in a new arena. For public administrators in Ghana, it opens up pragmatic strategic options to grow intellectual capabilities to improve efficiency in policy-making and service delivery. Practically, the study is a significant step towards institutionalising KM in Ghana as a direct response to development partners' calls for efficient public administration and meeting a major component of the New Public Management agenda: *public organisations becoming learning institutions*.

Key words: knowledge management, knowledge economy, public sector.

Dedication

Render honour to whom honour is due (Romans 13:7)

This thesis is dedicated to the inspiring life of my pastor and friend:

Reverend Elliot Nana Yaw Lamptey (Gospel Believers Chapel Int, Ghana)

(1954 – 2011)

Acknowledgement

Only when we have knelt before God, can we stand before men

Pastor Andrews L. Ewoo

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My family, Christian friends, brothers and sisters who prayed for me are hereby acknowledged. Your thoughts and hearts were with me throughout my academic sojourn in the UK and so you deserve my unreserved thanks. I appreciate the patience of my daughters: Nadia, Nancy and Frema, who took it easy without me for much of the three years I was studying abroad. Finally I praise my dear wife Grace, for giving meaning to the saying: "behind every successful man, there is a virtuous woman". She inspired joy and hope that provided me with sustenance throughout this arduous journey.

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List of Abbreviations

2EMS	-	Expectation, Environment, Means and Support
CoP	-	Community of Practice
K4D	-	Knowledge for Development
KAM	-	Knowledge Assessment Methodology
KE	-	Knowledge Economy
KI	-	Knowledge Index/Knowledge indexes
KIM	-	Knowledge and Information Management
KM	-	Knowledge Management
MDA	-	Ministry, Department and Agency
PSO	-	Public Sector Organisation

1 INTRODUCTION

To know what you know and what you do not know, that is true knowledge

Kong Fu Zi

1.1 Chapter Preview

Chapter one gives the background of the research study. Among other significant landmarks, it sets the thesis in context and justifies the significance of the study. Knowledge management, a practice and discipline, spawned by the challenges of managing knowledge in the global knowledge economy, is introduced and discussed from the perspectives of both practitioners and academics.

The varying degree of adoption of knowledge management as a strategic tool in public sector organisations and their private counterparts is also examined in this chapter. This dichotomy is essential as the current research seeks, in part, to contribute to the relatively research-deprived area of public sector knowledge management in developing economies. Knowledge work, reforms and other pertinent features of the public sector are also discussed.

The concluding sections of the chapter detail the motivation for the study, the problem statement, and the research goals and objectives. This is followed by a preview of the research methodology and noteworthy portions highlighted. The penultimate section sets the context of this thesis and in particular the contexts in which the intended KM framework could be applied. The final section outlines the structure of the thesis, providing a summary of each chapter.

1.2 Knowledge Management in the Public Sector

The public sector is a part of the state that deals with the ownership, production, sale, provision, delivery and allocation of goods and services by and for the government or its citizens. Also known as the state sector or the government sector, the public sector can operate at the national, regional or local level. Employees within the public sector or public servants (also known as civil servants in some cases) are primarily concerned with the organisation and implementation of government policies and programmes.

Public administration or management of the public sector is taking on some features of the private business organisation as citizens, both within developed and developing economies, are demanding efficient public services. Gone are the days when the public sector was clothed in mundane and inept character and it was acceptable; largely in the advanced countries with developing countries following suit. Policies such as the Citizen's Charter have been introduced to make the public sector accountable and to gradually stem acts of impunity within its set up.

Over the years, movements such as the New Public Management (NPM) have sought to invigorate the public sector by introducing radical reforms. A more recent regime is advocating reintegration, needs-based holism and digitization changes in public administration (Dunleavy, Margetts, Bastow, and Tinkler 2005). The overall movement incorporating this shift is towards "digital-era governance" (DEG). The DEG involves reintegrating functions into the governmental sphere, adopting holistic and needs-oriented structures, and promoting digitization of administrative processes.

All these changes to public administration are informed in part by the knowledge economy phenomenon which is globally acknowledged. Public and private institutions are finding ways to develop strategies to optimize the use of their resources, especially knowledge, which has become a source of lasting competitive advantage (Nonaka, 1987 and 1994; Drucker, 1968; Toffler, 1990). Both governments and businesses are compelled to exploit knowledge resources for competitive advantage.

The World Bank, acknowledging the potential positive impact of harnessing knowledge resources, is organising policy workshops for countries to help them transition into knowledge-based economies. Ghana, Tanzania and Senegal benefited from the African series of the knowledge economy workshops in 2002.

According to the World Bank, the challenge for African countries is their inability to create a favourable environment that nurtures knowledge creation and sharing (World Bank, 2003). It is the argument of this thesis that public sector knowledge management provides the opportunity for governments to meet this challenge to an appreciable extent. Governments in developed economies, including the United Kingdom, have embraced knowledge management initiatives in various facets of public management with encouraging results (BSI, 2004).

Policy makers in developing countries, including Ghana, Tanzania and Uganda, ought to explore knowledge management as an organisational practice within their respective public sectors. This will no doubt be an immense contribution towards their quest to become knowledge based.

Some studies have attempted to explore how private sector knowledge management concepts and practices might contribute to public sector quality improvement initiatives (Bate & Robert, 2002). That notwithstanding public sector knowledge management has attracted only a few knowledge management research and publications. The peculiar environment within which public sector organisations operate does not make them easy adopters of knowledge management strategies. The adoption rate, in the African context, is worse, if not non-existent. Thus, this research may be one among just a few.

In the case of Ghana, the need for a mechanism to manage and enable re-use of the vast knowledge resources scattered across public sector has been highlighted by a consultative team from the World Bank as far back as 2002. Given the relatively secure job environment, there is comparatively low employee turnover rate in the sector. This enables rich experiences and insights

to be nurtured for a long time. But the absence of well-coordinated knowledge succession plan means that retirees walk out with almost all their expertise.

With the sector expected to enhance its efficiency, re-engineer its service delivery and ultimately, increase its productivity as a response to the global call for improved public administration, a well thought-through knowledge management practice framework or guidelines is what Ghana needs. If such a framework is scalable, practical and flexible, and accorded the needed support, the sector could realise the improved performance as it connects with internal and external knowledge resources.

1.3 Motivation for the study

A number of issues, academic and national in character, coalesced to inspire this study. The author's many years of association with public sector administration and growing interest in knowledge management theory and practices following a master's degree in the subject area, have positioned him to appreciate the gains to be derived from a well-oriented knowledge management programme for Ghana's public sector. Ghana's public sector has benefitted from a number of interventions from its development partners which has set the stage for capacity building within the sector including knowledge management initiatives. More than that, the author is particularly challenged by the calls within the field of knowledge management to explore avenues for better application of knowledge management theories and concepts within the public sector. Another source of motivation has been the country's collaboration with the World Bank on its knowledge economy policy workshops and conferences. In summary, the motivation for this study stems from:

- A growing interest in knowledge management as a critical strategic initiative transforming every sector of the global economy;
- A desire to further advocate and initiate knowledge management as a strategic corporate management tool for public sector organisations in developing

countries in line with the recommendation in an earlier study – MSc. Dissertation project, Acheampong (2008);

- A civic obligation to contribute to Ghana's fledgling attempt to find a foothold within the global knowledge economy.

1.4 Research problem and questions

The public sector generates vast amounts of knowledge resources that generally go untapped. There is absence of a conscious effort to harness this high end resource. This thesis will explore how knowledge can be optimised within public sector organisations in Ghana, in particular and in developing economies, in general, by proposing enabling conditions and practices. The three dimensions of the research problem are: Determining public sector practices and procedures that can be leveraged by introducing knowledge management techniques; determining how these practices can be leveraged and benchmarking based on best practices within public organisations in the United Kingdom (UK); and developing a KM practice framework for managing enterprise knowledge within public sector organisations with specific focus on Public sector organisations in Ghana.

In summary the research problem looks at:

"How to manage knowledge in public sector organisations in Ghana".

In terms of the stated research problem, the thesis aims to answer the following specific research questions:

1. *What major factors and conditions (organisational, political, socio-cultural, economic, technological, etc.) promote Knowledge Management in public sector organisations?*
2. *How will the identified factors and conditions promote effective knowledge management in public sector organisations in Ghana?*

3. *What initiatives, strategies and measures should public sector organisations in Ghana take in order to introduce, cultivate and assimilate the identified factors and conditions to help manage enterprise knowledge effectively?*

1.5 Research aim and objectives

The overall goal of the thesis is to systematically develop a KM Practice Framework for managing knowledge in the Ghanaian public sector as a direct response to the research problem and questions. To reach this broad goal of the study, the objectives of the research will include the following:

1. To critically review literature on the various concepts, contexts and frameworks of knowledge management;
2. To conduct an in-depth empirical study into latent knowledge management drivers and enablers within Ghana's public sector organisations;
3. To conduct an in-depth empirical study at selected public sector organisations with established knowledge management programmes in the United Kingdom with the view to understanding their Knowledge Management strategy, processes, best practices and challenges;
4. To evaluate and synthesize the findings of the empirical study in the light of contemporary KM literature to determine the factors and conditions that would promote a sustainable knowledge culture in public sector organisations in Ghana;
5. To develop a KM practice framework for the Ghanaian public sector.

1.6 Research methodology

The research adopts the interpretivist paradigm as it focuses on gaining in-depth understanding and exploring social phenomena regarding knowledge management in developing and developed economies. Consequently, a multiple case studies method is employed to broaden the scope of empirical material to be collected. According to Saunders, *et al*. (2003), the interpretivist is not totally separated from the study. Saunders, *et al* (2002) and Yin (2009) characterise case study strategy as follows:

1. Involves an empirical investigation of a particular contemporary phenomenon within its real life context using multiple sources of evidence;

2. It is employed to gain a rich understanding of the context of the research and the process being enacted;

3. Data collection technique employed may be diverse. They may include questionnaires, interviews, observation and documentary analysis. Data from these sources must however converge in a triangulation fashion, and not as another result.

The adoption of multiple case studies is intended to enable the collection of relevant data both within public sector organisations in Ghana and the United Kingdom. For this study, the Ghanaian public sector is reckoned as a case and the public sector of United Kingdom, another case. According to Yin (2009), case studies are suitable for research studies with the aim of exploring a phenomenon. It is also widely accepted that qualitative methodology is applicable in knowledge management studies, information systems research and related disciplines (Croasdell, 2002; Markus, 1997; and Myers, 1997)

The BCPI (Business focus, Culture, Processes and Infrastructure) Matrix, a meta-level framework that comprehensively maps all relevant elements for managing enterprise knowledge, was employed to fashion the data collection instrument. This, together with documented discourse on public administration and direct observation, formed the basis for the design of the semi-structured questionnaire used for the interview.

There are a number of methods for analysing qualitative data. According to Hussy and Hussey (1997), the grounded theory is becoming popular for analysing qualitative data. Sekaran and Bougie (2010) and Locke (2001) support this view, which involves generating the codes and categories inductively from the data, in situations where there is no theory available. Strauss and Corbin (1990) define grounded theory as a systematic set of procedures to develop and inductively frame theory from data. Given its rigour as a qualitative data analysis tool, the proposed research study will draw various concepts and techniques from grounded theory for data analysis. Chapter three gives a comprehensive overview of the research methodology and justification for the methods, approaches and techniques employed in the study.

1.7 Research contexts

Public sector knowledge management has been studied in a number of contexts mainly in the advanced economies. The stark difference between the public sectors of advanced economies and those of the developing world necessitates providing a clear context within which the intended framework can be applied. Following are some defined boundaries of the study.

Research position: Skill adaptation and knowledge management discourse

The knowledge economy framework proposed by the World Bank is a comprehensive and long-term strategy for transitioning into the knowledge-based economy. The four constituent pillars: An Economic Incentive and Institutional Regime, Education and Skilled Workers, An Effective Innovation System and A Modern and Adequate Information Infrastructure (details discussed in section 2.2.2) provide a holistic road map for governments to steer their economies in a way that knowledge will be increasingly applied in every facet of economic activity. This study primarily focuses on only one of the four

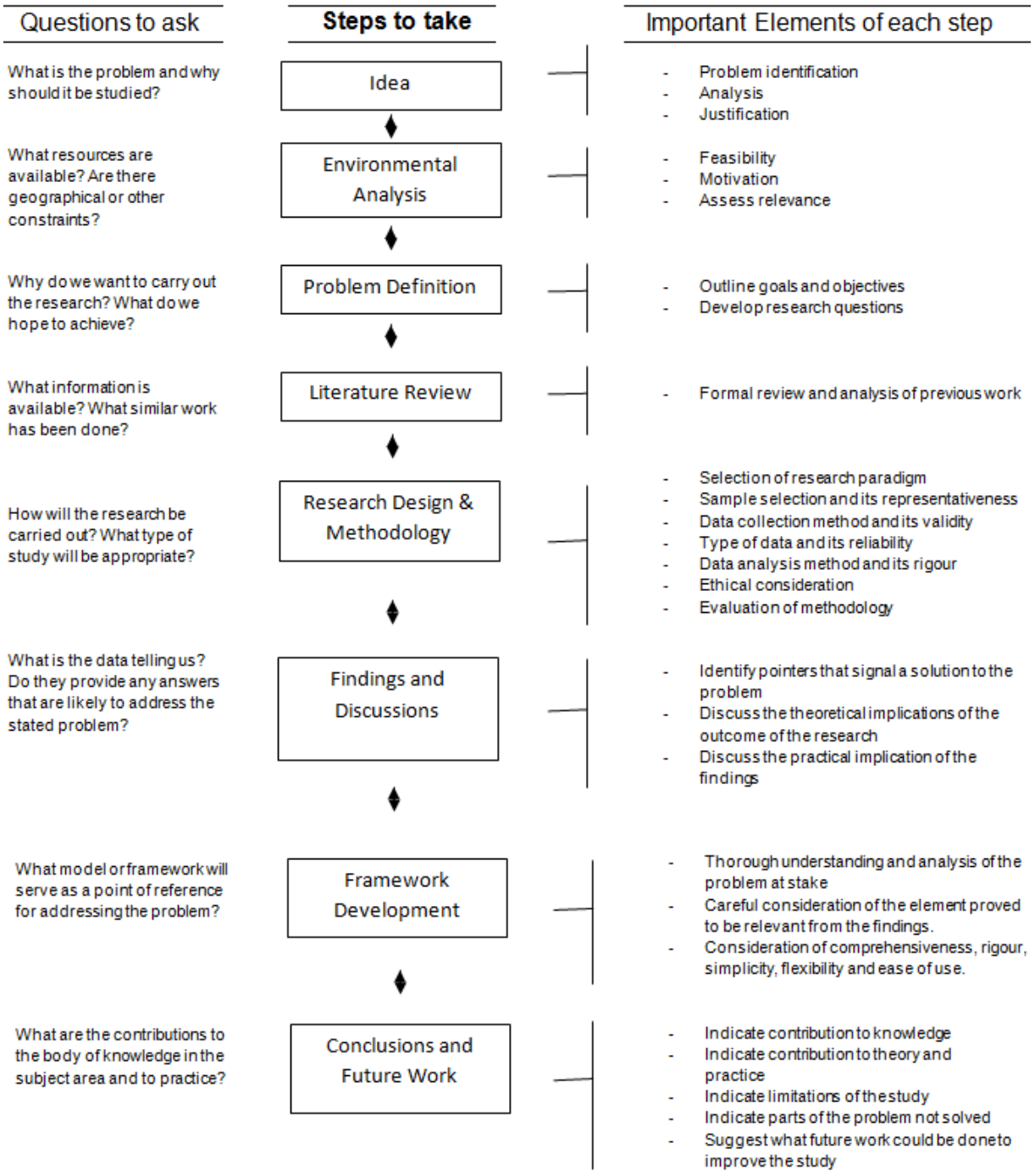
pillars: *Education and Skilled Labour Force*. The intended framework will provide guidelines that will enable public servants to efficiently create and use knowledge. It is also intended to further discussions within government circles and academia towards Ghana's quest to become a knowledge society. This position is in line with the World Bank's preliminary Knowledge Economy Assessment of Ghana following the knowledge economy policy workshop in 2002, which recommended the creation of 'forums' to advance the knowledge economy discourse in Ghana.

Applicability of the framework

The framework, as envisioned in this research, is for deploying knowledge management as an organisational strategy in public sector organisations, particularly in Ghana. Most of these organisations are non-profit making in character and subvented by the Government. The limitations posed by these traits and their peculiar organisational challenges are taken into consideration in developing the framework. For this reason, application of the framework outside the public sector may be uncertain. Private sector adoption may therefore require some modification to the components of the framework. While it may be possible to apply the framework within the public sector organisations of other African countries, caution must be exercised where operational and organisational differences exist.

1.8 Overarching Research Process

Figure 1.1 gives a schematic representation of the research process adopted for this study. The process diagram has three segments which makes it easy to understand. The first segment asks relevant questions that elucidate the different stages of the research process. Activities carried out and important elements of those activities are presented and explained in the other two other segments.



*Adapted from the **International Development Research Council**, Canada (2012)*
http://www.idrc.ca/en/ev-56599-201-1-DO_TOPIC.html

Figure 1.1: An overview of research process adopted for this thesis

1.9 Thesis Structure

This thesis is structured in five connected but distinct chapters encapsulating the research processes adopted. Subsections 1.8.1 through 1.8.5 give brief descriptions of the content of each chapter while figure 1.1 shows a simple pictorial representation of the research process adopted.

Chapter 2: Literature review

This chapter critically reviews a wide range of literature based on knowledge economy, as a phenomenon and knowledge management, as a practice and a discipline. The aim is to present an exhaustive discussion of the tenets of the knowledge economy and to appraise various knowledge management concepts and theories as well as provide a theoretical basis for the study. The review, among other observations, notes the paucity of public sector knowledge management discourse and draws attention to the call for intense research into knowledge management adoption within public organisations.

More importantly, the concept of knowledge is explored and the meaning of knowledge management orientated to suit the public sector. Furthermore, theoretical underpinnings are provided for each of the research questions presented in chapter one. The chapter concludes by reviewing the concepts of knowledge economy and knowledge management in the Ghanaian context.

Chapter 3: Methodology

The chapter provides the overall methodology of the study. The research paradigm and methodologies for data collection and analysis are presented and justification assigned for the choice of each. It also presents the considerations for sample selection and short description of the case organisations. The profiles of participants or respondents are also presented.

Chapter 4: Data analysis and framework development

This chapter presents the analysis of the findings of the study. The findings are thoroughly discussed and their theoretical roots determined from knowledge management literature. Informed by the political and socio-cultural traits of the public sector, the findings are synthesized to develop a developing economy knowledge management practice framework.

Chapter 5: Conclusion

The final chapter briefly presents an overview of the research aim and objectives and how they were accomplished. The knowledge contributions of the study and its practical and theoretical implications are analysed, discussed and evaluated. The last chapter ends with recommendations for future research and a personal reflection.

1.10 Chapter summary

The first chapter of this thesis presented a succinct background to the study where the research context and the methodology which describes the research approach and design have been clarified. The chapter also highlighted the aim and objectives charted for the study. Explanation of the research design and the attendant research process concluded the chapter.

2 LITERATURE REVIEW

The answers you get from literature depend on the questions you pose

Margaret Atwood

2.1 Introduction

This chapter presents an in-depth discussion on knowledge economy and traces attempts by both industrialized and developing countries to achieve knowledge-based economy status. A definition of knowledge economy is carefully crafted for this thesis; one that will not alienate developing countries, especially those in Africa, from coming close to having anything to do with this globally-transforming experience. The World Bank's Knowledge-Economy Index and Knowledge Assessment Methodology are reviewed to assess their role in promoting knowledge consciousness in national development agenda worldwide. The primary focus of this review is to track developments, both historic and recent, in the field of knowledge management, on one hand, and efforts by the World Bank and identifiable institutions to promote, and by Governments to attain knowledge-based economies, on the other.

Furthermore, various philosophical perspectives on knowledge as well as the history of knowledge management gleaned from the extant literature on the subject area are discussed. A range of knowledge management concepts and frameworks are reviewed and their application in the public sector context explored. An attempt is also made to establish the supporting role of knowledge management in the attainment of a knowledge-based economy by a

careful analysis of the recommendations of a World Bank Knowledge Economy Policy Workshop for Ghana.

2.2 Knowledge Economy: A Global Challenge and Opportunity

2.2.1 The Emergence of the Knowledge Economy

Drucker (1968) introduced and popularized the term “knowledge economy” and noted that businesses will have to convert themselves into organisations of knowledge specialists to remain competitive, maybe, even to survive. It is academically prudent to note that, Peter Drucker, a management theorist credited Austrian-American economist Fritz Machlup and used the term in his 1968 book, *The Age of Discontinuity.* Nonaka (1987) puts it succinctly thus, “knowledge is a sure source of lasting competitive advantage in an economy where the only certainty is uncertainty”. In the same vein, Quintas (2002) posits that to survive the pace of change resulting from globalisation, technological advancement and innovation, today’s organisations need to continually regenerate and develop knowledge. Similarly, Savage (1996) argues that we are in the *Knowledge Age* and wealth is based upon ownership of knowledge and the ability to use that knowledge to create and improve goods and services. According to Houghton and Sheehan (2000), knowledge economy emerges from two forces “the rise in knowledge intensity of economic activities and increasing globalization of economic affairs”.

Indeed, the emergence of the knowledge economy has transformed the business dynamics in the industrial world. Thus, in many global economies, the conventional resources of competence are now replaced by knowledge (Drucker, 1993). The World Bank in its development report (1998) notes that “for countries in the vanguard of the world economy, the balance between knowledge and resources have shifted so far towards the former that knowledge has perhaps become the most important factor determining the standard of living…today’s most technologically advanced economies are truly knowledge based”.

According to the World Bank (2005), the increasing importance of knowledge creates both a challenge and an opportunity for developing countries (and advanced economies). A challenge in that, to be competitive internationally, countries must be able to participate in the knowledge-driven supply chains and markets that dominate the world economy. But for those who prepare themselves to face this challenge, the knowledge and information revolution can contribute greatly to promoting economic growth and social development and to reducing poverty.

The process to engendering a knowledge-driven economy is not a clear-cut one. In this context, the World Bank observes that this course is not only about shaping the reform agenda from the top. It is also about trial-and-error experimentation with what works and what does not work in the economy concerned and about how to take bottom-up initiatives to the scale. This requires monitoring achievements and adjusting economic strategy to changing conditions. Countries that decide to embrace and work towards becoming knowledge economies are not left alone; the World Bank is committed to working with such countries to devise concrete and practical initiatives to help them realize their full potential in the global knowledge economy of the twenty-first century.

It will be informative at this juncture to examine what the concept *knowledge economy* denotes by considering the different definitions put up in the literature. Synthesizing the numerous definitions, knowledge economy often refers to an economy that creates, disseminates and uses knowledge to enhance its growth and development. The concept is often taken to mean only high-technology industries or information and communication technologies (ICTs). An industry-based definition is not entirely satisfactory because knowledge economy applies across all industries. The World Bank and the Work Foundation (A leading provider of research-based analysis, knowledge exchange and policy advice in the UK) acknowledge the inadequacy of such an industry-tied definition. The Work Foundation however concedes that an industry-based approach has the advantage of being able to draw on official statistics based on internationally

agreed definitions of knowledge-based industries. According to the World Bank (2005), it would be appropriate to use the concept more broadly to cover how any economy harnesses new and existing knowledge to improve the productivity of agriculture, industry, and services and increase overall welfare. The Work Foundation adopts the definitions developed by Erostat and the Organisation for Economic Cooperation and Development (OECD), which together, broadens the definition to include high to medium tech manufacturing and communications, financial and business services, health, recreational and sporting services, education and cultural services, and some travel services (sea and air).

This thesis agrees with the broad definition of knowledge economy as it sends the clearest signal that developing countries are not in any way unreceptive to its tenets; that developing countries, despite the digital gap, can pursue programmes and initiatives that would help harness existing knowledge while tapping into the pool of global knowledge.

The global knowledge economy phenomenon is transforming every facet of the world economy. In particular it is transforming the demands of the labour market in economies worldwide. The World Bank observes that this is placing new demands on citizens who need more skills and knowledge to function in their day-to-day lives than can be acquired in formal education systems alone. In this regard, the World Bank proposes the concept of lifelong learning as the form of education for the knowledge economy…and it is as crucial in transition and developing economies as it is in the developed world. More broadly the World Bank identifies seven key elements of what can be called “knowledge revolution”:

1. Increased codification of knowledge and development of technologies.
2. Closer with science base; increased rate of innovation; shorter product life cycles.
3. Increased importance of education and up-skilling of labour force and life-long learning.
4. Investment in intangibles such as research and development, education, software, etc.

5. Greater value addition now coming from investment in intangibles such as branding, marketing, distribution, and information management.
6. Innovation and productivity have become the major important components of competitiveness and GDP growth.
7. Increased globalization and competition.

The World Bank proposes that with the global scene fraught with constant change and competition, the implication for participants is the need for constant restructuring and upgrading. In a study conducted for the World Bank, Chen and Dahlman (2005) presented the decomposition of South Korea's economic growth over four decades, which clearly highlights the contribution of knowledge, represented by total factor productivity (TFP), to the country's economic miracle. They found out that in 1960, Korea's real GDP per capita was around US$1,110, and increased by eleven-fold to US$12,200 in 2003. Contrasting with the performance of Mexico, they found out that Mexico's real GDP per capita experienced a slightly more than two-fold increase, from US$2,560 to US$5,800 over the same period. They projected that without the contribution of knowledge, Korea's real GDP per capita in 2003 would still be below Mexico's. With a TFP growth rate of three percent per annum, Mexico would attain South Korea's 2003 real GDP per capita by 2020 (See Figure 2.1).

According to Kandadi (2006), this knowledge economy phenomenon which emphasizes knowledge as the bedrock of our socio-economic development has created a colossal business challenge – "Knowledge Management". The challenge of managing knowledge is a complex one in developing economies because of socio-economic, political and institutional factors. The succeeding sections discuss the knowledge economy in the industrialized world, transitional economies and developing countries.

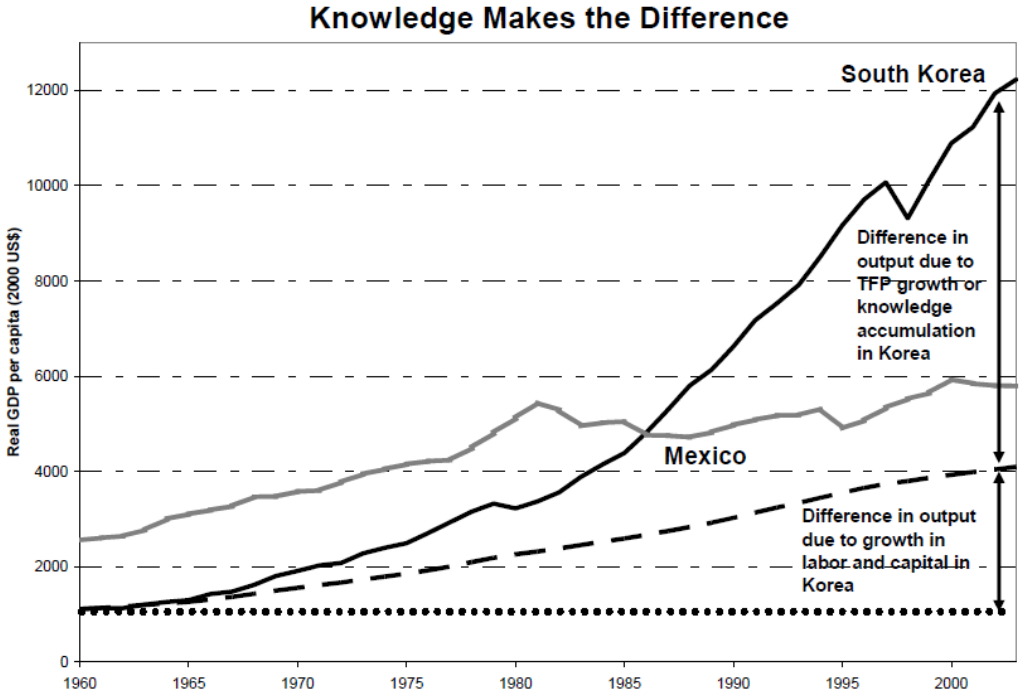


Figure 2.1: Knowledge makes the difference – South Korea and Mexico (Chen and Dahlman, 2003)

2.2.2 The World Bank's Knowledge Economy Framework

Sections 2.2.2 and 2.2.3 present extracts from the work by Chen and Dahlman (2005), which is meant to provide guidelines on the World Bank's Knowledge Economy framework and its knowledge economy bench-marking tool, the Knowledge Assessment Methodology (KAM).

The World Bank has found that the successful transition to the Knowledge Economy typically involves elements such as long-term investments in education, developing innovation capability, modernizing the information infrastructure, and having an economic environment that is conducive to market transactions. These elements have been termed by the World Bank as the pillars of the Knowledge Economy and together they constitute the Knowledge Economy framework.

More specifically, the four pillars of the Knowledge Economy (KE) framework are:

a) An *economic incentive and institutional regime* that provide good economic policies and institutions that permit efficient mobilization and allocation of resources and stimulate creativity and incentives for the efficient creation, dissemination, and use of existing knowledge.

b) *Educated and skilled workers* who can continuously upgrade and adapt their skills to efficiently create and use knowledge.

c) An *effective innovation system* of firms, research centres, universities, consultants, and other organisations that can keep up with the knowledge revolution and tap into the growing stock of global knowledge and assimilate and adapt it to local needs.

d) A *modern and adequate information infrastructure* that can facilitate the effective communication, dissemination, and processing of information and knowledge.

The Knowledge Economy framework thus asserts that investments in the four knowledge economy pillars are necessary for sustained creation, adoption, adaptation and use of knowledge in domestic economic production, which will consequently result in higher value added goods and services. This would tend to increase the probability of economic success, and hence economic development, in the current highly competitive and globalized world economy.

Educated and Skilled Labour Force

There is no doubt that a well-educated and skilled population is essential to the efficient creation, acquisition, dissemination and utilization of relevant knowledge, which tends to increase total factor productivity and hence economic growth. Basic education is necessary to increase peoples' capacity to learn and to use information. On the other hand, technical secondary-level education, and higher education in engineering and scientific areas is necessary for technological innovation.

Regardless of the underlying model, it is a fairly robust finding that a country's human capital is almost always identified as an essential ingredient for achieving growth. For example, Barro (1991), using cross-section data for 98 countries for the period 1960 to 1985 and the 1960 values of school enrolment rates at the secondary and primary levels as proxies for initial human capital, found that both school enrolment rates had statistically significant positive effects on growth of per capita real GDP. Similarly, Cohen and Soto (2001), using cross-country time-series data on educational attainment or average years of school, finds statistically significant positive effects of education on economic growth. Hanushek and Kimko (2000) take an alternative approach by focusing on the effects of educational quality on economic growth. Using international test scores as a proxy for the quality of educational systems, they find that educational quality does exert positive effects on economic growth.

An Effective Innovation System

Economic theory indicates that technical progress is a major source of productivity growth and an effective innovation system is important for such technical advancement (Solow, 1957 and Romer, 1986, 1990). An innovation system refers to the network of institutions, rules and procedures that influence the way by which a country acquires, creates, disseminates and uses knowledge. Institutions in the innovation system include universities, public and private research centres and policy think tanks. Non-governmental organisations and the government are also part of the innovation system to the extent that they also produce new knowledge. An effective innovation system is one that provides an environment that nurtures research and development (R&D), which results in new goods, new processes and new knowledge, and hence is a major source of technical progress. The OECD defines R&D to "comprise of creative work undertaken on a systemic basis in order to increase the stock of knowledge and the use of this stock of knowledge to devise new applications" (OECD, 1993).

Currently, the majority of technical knowledge is produced in the developed countries: more than 70 percent of patenting and production of scientific and technical papers are accredited to researchers in industrialized countries. The disparity in the production of technical knowledge per capita between developed and developing countries is even greater than the disparity in income. However, it is noted that domestic technological innovation is not the sole source of generation of technical knowledge. There are many ways for developing countries to avoid reinventing the wheel and tap into, adopt and adapt technical knowledge that was created in other developed countries. Therefore, a key element of a developing country's innovation strategy is to find the best ways to tap into the growing global knowledge base and to decide where and how to deploy its domestic R&D capability.

An Adequate Information Infrastructure

Information and communications technologies (ICTs) infrastructure in an economy refers to the accessibility, reliability and efficiency of computers, phones, television and radio sets, and the various networks that link them. The World Bank Group defines ICT to consist of hardware, software, networks, and media for collection, storage, processing, transmission, and presentation of information in the form of voice, data, text, and images. They range from the telephone, radio and television to the Internet (World Bank, 2003a and 2003b).

ICTs are the backbone of the knowledge economy and in recent years have been recognized as an effective tool for promoting economic growth and sustainable development. With relatively low usage costs and the ability to overcome distance, ICTs have revolutionized the transfer of information and knowledge around the world. Over the past decade, there has been a series of studies that show that both ICT production and ICT usage have contributed to economic growth (Pilat and Lee, 2001; Jorgenson and Stiroh, 2000; Oliner and Sichel, 2000; Whelan, 2000; and Schreyer, 2000). Information Communications Technology (ICT)-producing sectors have experienced major technological advancements, which have showed up as large gains in total factor productivity at the level of the economy. As for the non-ICT producing sectors, investment in

ICT has resulted in capital deepening, and hence increases in labour productivity. More importantly, various studies have produced empirical evidence suggesting that substantial productivity gains have been experienced from ICT usage. Some national studies point to the use of ICT as an important factor in improved TFP growth; these include Council of Economic Advisors (2000, 2001), Whelan (2000), Oliner and Sichel (2000), and Jorgenson and Stiroh (2000).

One of the most obvious benefits associated with ICT usage is the increased flow of information and knowledge. Because ICTs allow information to be transmitted relatively inexpensively and efficiently (in terms of cost), ICT usage tends to reduce uncertainty and transactions costs of participating in economic transactions. This, in turn, tends to lead to an increase in the volume of transactions leading to a higher level of output and productivity. Moreover, with the increased flow of information, technologies can be acquired and adapted more easily again leading to increased innovation and productivity.

Apart from increasing the supply of information and knowledge, ICTs are able to overcome geographic boundaries. Therefore, international buyers and sellers are increasingly able to share information, reduce uncertainty, reduce transactions costs, and increase competitiveness across borders, all of which result in a more efficient global marketplace. Also, production processes can be outsourced, based on comparative advantage, across national boundaries resulting in further global efficiency gains. Market access and coverage also tend to expand, along with increased access to global supply chains.

A Conducive Economic and Institutional Regime

The final pillar of the knowledge economy framework, but by no means the least, is the economic and institutional regime of the economy. The economic and institutional regime of an economy needs to be such that economic agents have incentives for the efficient use and creation of knowledge, and thus should

have well-grounded and transparent macroeconomic, competition and regulatory policies.

A “knowledge-conducive” economic regime should be in general one that has the minimal number of price distortions. For example, it should be open to international trade and be free from various protectionist policies in order to foster competition, which in turn will encourage entrepreneurship (Sachs and Warner, 1995 and Bosworth and Collins, 2003). . Government expenditures and budget deficits should be sustainable, and inflation should be stable and low (Barro, 1991). Domestic prices should also be largely free from controls and the exchange rate should be stable and reflect the true value of the currency. The financial system should be one that is able to allocate resources to sound investment opportunities and redeploy assets from failed enterprises to more promising ones. (Levine *et al*. 2000).

Features of a favourable institutional regime include an effective, accountable and corrupt-free government and a legal system that supports and enforces the basic rules of commerce and protects property rights. Intellectual property rights should be also protected and enforced, then researchers/scientists will have less incentive to create new technological knowledge and even in the event that knowledge is created, the lack of intellectual property rights protection will greatly hamper dissemination of such new knowledge (Knack and Keefer, 1995 and Kaufmann *et al*. 2002, 2003).

2.2.3 The Knowledge Assessment Methodology (The World Bank)

The World Bank developed the Knowledge Assessment Methodology (KAM), simple knowledge economy benchmarking tool, in order to help countries trying to make a transition to the knowledge economy (Chen and Dahlman, 2005). Chen and Dahlman’s study looked at the KAM and World Bank Operations. Their study is to serve as KAM user guide in addition to information contained on the World Bank’s web site. The KAM is a user-friendly interactive internet-based tool designed to provide a basic assessment of countries’ readiness for

the knowledge economy, and identifies sectors or specific areas where policymakers may need to focus more attention or future investment. The cross-sectoral approach of the KAM allows a holistic view of the wide spectrum of factors relevant to the knowledge economy, helping countries identify the challenges and opportunities they face in making the transition to the knowledge-based economy. Due to its usefulness in terms of transparency, simplicity and versatility, the KAM is currently being widely engaged with both internally and externally to the World Bank. Government officials, policy makers, researchers, representatives of civil society, and the private sector are known to use the KAM. Multilateral and bilateral aid agencies, research institutions, consultants and others use the KAM for preliminary single or multi-country knowledge economy assessments.

Countries that want to become knowledge-based need long-term strategies that focus on developing the four knowledge economy pillars proposed by the World Bank. These strategies, to ensure their undisturbed pursuit, must be enshrined in the countries' national Development Plans. South Korea's dramatic performance towards becoming knowledge based is largely due to placing such strategies in the centre of the country's national development agenda with parallel blueprints prepared and pursued by the relevant government ministries and departments. This should of course come on the backdrop of preliminary assessment of the country's strengths and weaknesses and the development of appropriate policies and investment plans.

The current KAM, 2012 edition, consists of 148 (up from 80 in 2005 edition) structural and qualitative variables for 146 (up from 128 in 2005) countries to measure their performance on the four knowledge economy pillars: Economic incentive and Institutional Regime, Education, Innovation, and Information and Communication Technologies. The countries and the nine regional groupings, into which they are put, are ranked in ordinal scale. The variables are normalized (because they span over different ranges of values) on a scale of 0 (weakest) to 10 (strongest) relative to other countries in the comparison group. The KAM also derives a country's overall Knowledge Economy Index (KEI) and

Knowledge Index (KI). The data on which the KAM is based are all published by reputable institutions that are at the forefront of gathering and producing country statistics that is reliable and internationally consistent. The data are continuously updated and the country coverage is expanded whenever possible. This led to the rise from 80 to 148 and 128 to 146 in the qualitative variable and countries, respectively.

There is a distinction between the Knowledge Economy Index and the Knowledge Index. The KAM Knowledge Index (KI) measures a country's ability to generate, adopt and diffuse knowledge. Thus, it is indicative of the overall potential of knowledge development in a stated economy. As noted, the KI is the simple average of the normalized performance scores of a country or region on the key variables in three Knowledge Economy Pillars – education and human resources, the innovation system and information and communication technology (ICT). The Knowledge Economy Index (KEI), on the other hand, is the most commonly cited of the KAM's indexes. It is a broad measure of the overall level of preparedness of a country or region for the knowledge economy, as it takes into account whether the environment is conducive for knowledge to be used effectively for economic development. Computation of the KEI is based on the average of the normalized performance scores of a country or region on all four pillars related to the knowledge economy. Figure 2.2 shows the relationship between KAMs knowledge indexes.

The KAM which is available in six different display modes is able to provide assessments of a country or a region's position in terms of Knowledge Economy on:

- A global scale, when compared to all 146 countries that are available in the KAM database;
- A regional scale, when compared with countries in the same region;
- The basis of human development, when compared with other countries in the same category of human development;
- The basis on income levels, when compared with other countries in the same income level category.

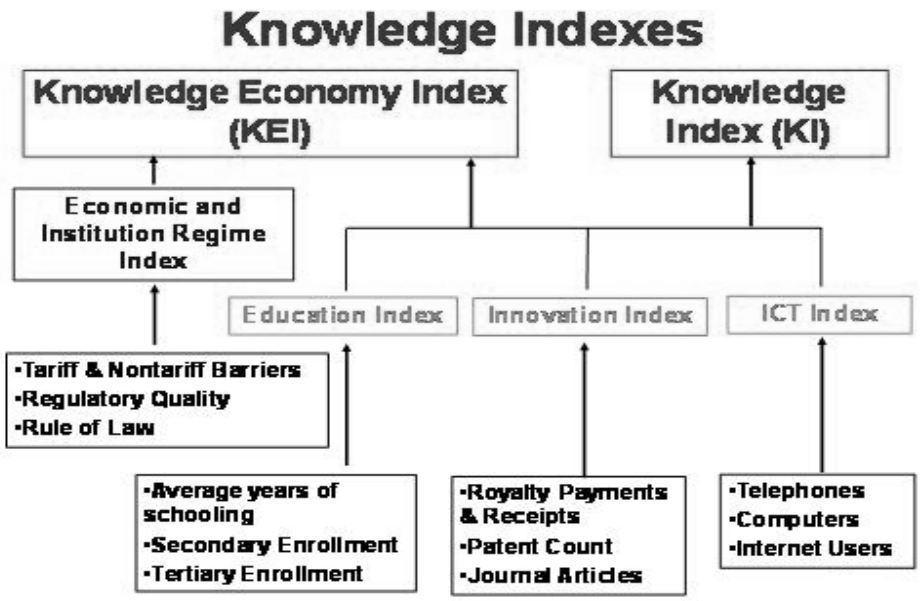


Figure 2.2: KAM's Knowledge Indexes – KEI and KI (Chen and Dahlman, 2005)

The KAM display modes include:

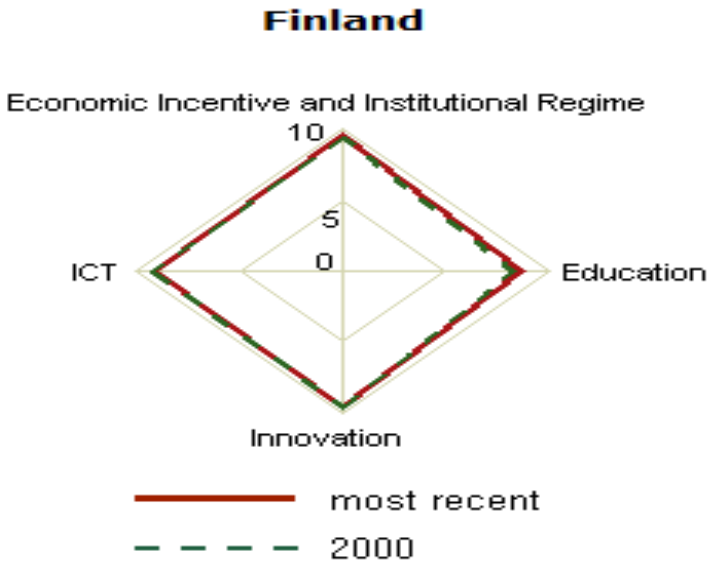
1. Basic Scorecard
2. Custom Scorecard
3. Knowledge Economy Index (KEI) and Knowledge Index (KI)
4. Over time Comparison
5. Cross-country Comparison
6. World Map

The basic scorecard provides an overview of the performance of a specific country or region in terms of all the four pillars of the Knowledge Economy. It uses 12 key knowledge variables as proxies to benchmark countries on the aforementioned Knowledge Economy pillars and derives their overall Knowledge Economy and Knowledge Indexes. Thus, the basic scorecard can be seen as a disaggregated representation of these indexes. The scorecard also includes two performance variables making the total 14. The scorecard allows comparisons for up to three countries for 1995, 2000 and the most recent

available year (in this case 2012). There are various ways available to illustrate the KAM basic scorecard, which includes the spider, diamond, and bar charts. Figures 2.3 to 2.11 show samples of each for selected countries, including Sweden, Finland, United Kingdom, Ghana, South Africa and Tanzania. The centre of the chart denotes the minimum normalized value of 0, while the outer perimeter of the chart denotes the maximum normalized value of 10. Thus, a "bigger" or "fuller" spider chart implies that the country or region is better positioned in terms of the knowledge economy. The tables below the charts give the values of the indexes.

Usually users of the system are reminded that, because countries are ranked on an ordinal scale, the KAM illustrates the relative performance of a country as compared to other countries in the KAM database. As such, when a country's performance in a specific variable is indicated to have declined, it could have occurred for two reasons. First, the country's performance in that variable declined, resulting in lower values in absolute terms. Alternatively, the country's performance could have improved and resulted in large absolute values, but other countries experienced even larger improvements, leading to the country's ordinal ranking falling and resulting in a lower value in relative terms.

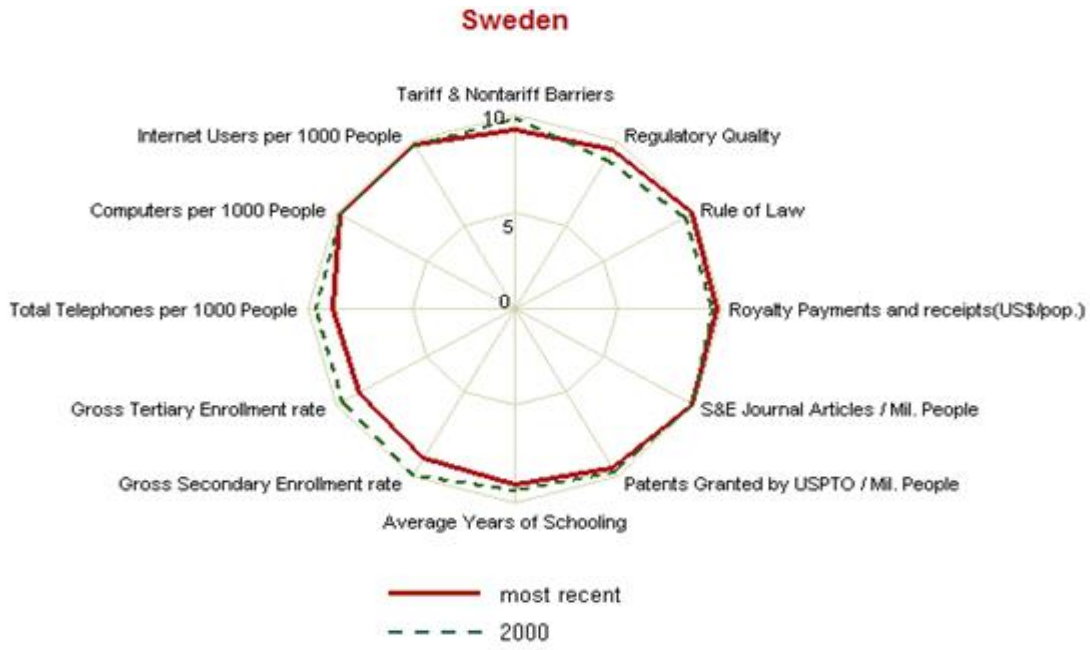
A cursory look at the performances of the countries displayed in figures 2.3 to 2.11 reveals that developed countries are at the high end of the knowledge indexes. For instance, Finland's scores for Economic Incentive and Institutional Regime and Innovation are each nearly at the maximum value of 10. This is in sharp contrast to Ghana's average score of 5.5 for both variables. With the exception of South African, the majority of African countries have a long way to go to in the preparedness for the knowledge economy. It will indeed take a bold step on the part of African Governments to systematically adopt and diffuse knowledge-enhancing practices in the social fabric of their economies.



Index	Finland 2012 Group: All	Finland2000 Group: All
1.Knowledge Economy Index (Average of 3,4,5,6)	9.33	9.22
2.Knowledge Index (Average of 4,5,6)	9.22	9.12
3.Economic Incentive and Institutional Regime	9.65	9.5
4.Education	8.77	8.31
5.Innovation	9.66	9.68
6.ICT	9.22	9.37

Source: The Knowledge Assessment Methodology (KAM) website (www.worldbank.org/kam)

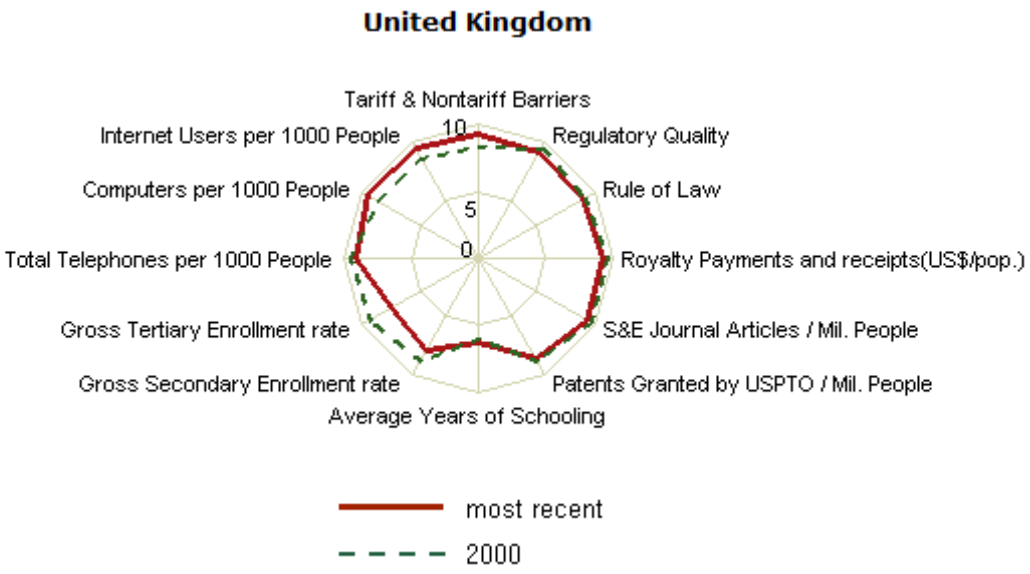
Figure 2.3: Finland – KEI 2012 and 2000; Normalization Group: All countries



Variable	Sweden 2012 (Group: All)		Sweden 2000 (Group: All)	
	Actual	Normalized	actual	normalized
Tariff & Nontariff Barriers	87.6	9.3	83	9.86
Regulatory Quality	1.66	9.52	1.45	8.9
Rule of Law	1.93	9.93	1.77	9.52
Royalty Payments and receipts (US$/pop.)	703.18	9.76	245.19	9.5
S&E Journal Articles / Mil. People	1.084.10	9.93	1.114.38	9.93
Patents Granted by USPTO / Mil. People	138.05	9.52	188.77	9.73
Average Years of Schooling	11.57	9.13	11.07	9.37
Gross Secondary Enrolment rate	102.61	8.9	151.99	9.93
Gross Tertiary Enrolment rate	71.54	8.72	67.19	9.72
Total Telephones per 1000 People	1.780.00	8.83	1.370.00	9.72
Computers per 1000 People	880	9.79	510	9.86
Internet Users per 1000 People	900	9.86	460	9.79

Source: The Knowledge Assessment Methodology (KAM) website (www.worldbank.org/kam)

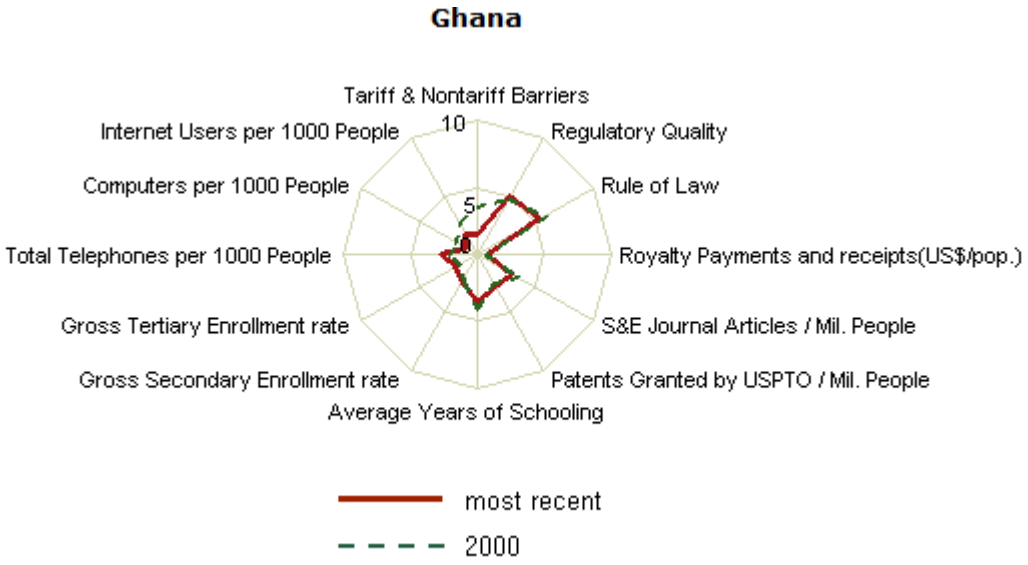
Figure 2.4: Sweden – Basic Scorecard 2012 and 2000; Normalization Group: All countries



Variable	United Kingdom 2012 (Group: All)		United Kingdom 2000 (Group: All)	
	Actual	normalized	actual	normalized
Tariff & Nontariff Barriers	87.6	9.3	77.8	8.43
Regulatory Quality	1.54	9.18	1.73	9.59
Rule of Law	1.71	9.11	1.63	9.17
Royalty Payments and receipts (US$/pop.)	362.66	9.28	251.11	9.58
S&E Journal Articles / Mil. People	773.01	9.31	818.71	9.66
Patents Granted by USPTO / Mil. People	64.81	8.77	68.86	8.9
Average Years of Schooling	9.59	6.3	8.81	6.06
Gross Secondary Enrolment rate	98.99	8	101.78	8.87
Gross Tertiary Enrolment rate	59	7.52	58.13	9.38
Total Telephones per 1000 People	1.840.00	9.24	1.340.00	9.59
Computers per 1000 People	800	9.59	340	8.78
Internet Users per 1000 People	830	9.52	270	8.69

Source: The Knowledge Assessment Methodology (KAM) website (www.worldbank.org/kam)

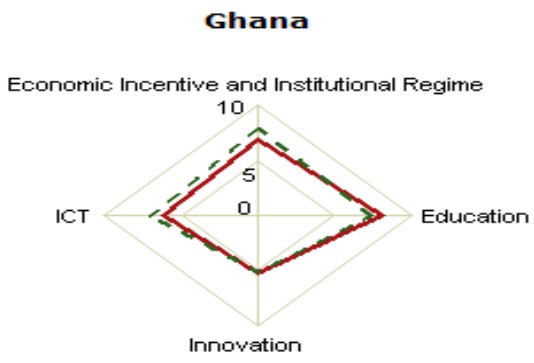
Figure 2.5: United Kingdom – Basic Scorecard 2012 and 2000; Normalization Group: All countries

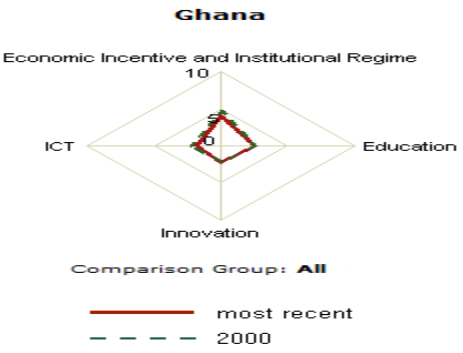


Variable	Ghana 2012 (Group: All) actual	Ghana 2012 (Group: All) normalized	Ghana 2000 (Group: All) actual	Ghana 2000 (Group: All) normalized
Tariff & Nontariff Barriers	67.8	1.61	61	3.71
Regulatory Quality	0.12	5.07	-0.03	4.9
Rule of Law	-0.11	5.48	0.05	5.93
Royalty Payments and receipts (US$/pop.)	0	0.88	0	0.67
S&E Journal Articles / Mil. People	4.78	3.03	4.57	3.49
Patents Granted by USPTO / Mil. People	0.01	2.81	0.01	2.47
Average Years of Schooling	7.75	3.7	7.12	4.09
Gross Secondary Enrolment rate	57.16	2.41	39.72	2.25
Gross Tertiary Enrolment rate	8.63	1.91	2.77	1.59
Total Telephones per 1000 People	640	2.76	20	2.14
Computers per 1000 People	10	1.16	0	1.94
Internet Users per 1000 People	50	1.86	0	2.83

Source: The Knowledge Assessment Methodology (KAM) website (www.worldbank.org/kam)

Figure 2.6: Ghana – Basic Scorecard 2012 and 2000; Normalization Group: All countries

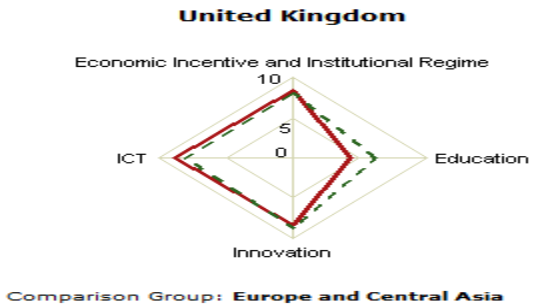


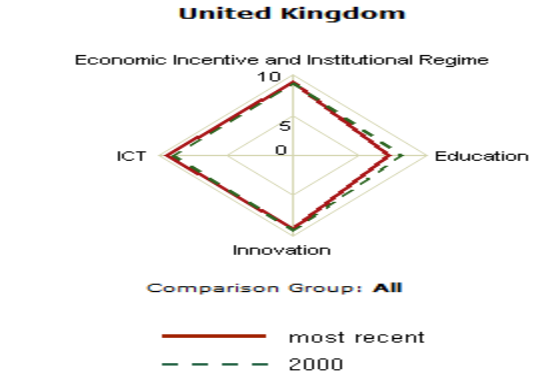


Index	Ghana (2012) Group: Africa	Ghana2000 Group: Africa	Ghana (2012) Group: All	Ghana2000 Group: All
1.Knowledge Economy Index (Average of 3,4,5,6)	6.63	6.9	2.72	3
2.Knowledge Index (Average of 4,5,6)	6.53	6.52	2.28	2.39
3.Economic Incentive and Institutional Regime	6.92	8.04	4.05	4.85
4.Education	8.12	7.41	2.68	2.64
5.Innovation	5.24	5.08	2.24	2.21
6.ICT	6.24	7.05	1.93	2.3

Source: The Knowledge Assessment Methodology (KAM) website (www.worldbank.org/kam)

Figure 2.7: Ghana – KEI 2012 and 2000; Normalization Group: Africa and All countries

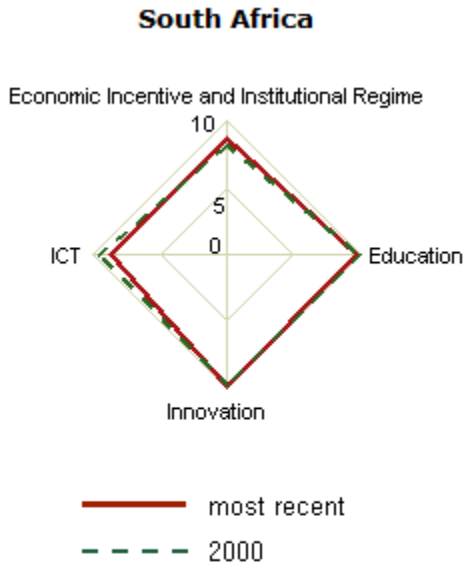




Index	United Kingdom (2012) Group: Europe and Central Asia	United Kingdom 2000 Group: Europe and Central Asia	United Kingdom (2012) Group: All	United Kingdom 2000 Group: All
1.Knowledge Economy Index (Average of 3,4,5,6)	7.56	7.77	8.76	8.89
2.Knowledge Index (Average of 4,5,6)	7.25	7.67	8.61	8.83
3.Economic Incentive and Institutional Regime	8.48	8.08	9.2	9.06
4.Education	4.38	6.15	7.27	8.11
5.Innovation	8.45	8.72	9.12	9.38
6.ICT	8.91	8.15	9.45	9.02

Source: The Knowledge Assessment Methodology (KAM) website (www.worldbank.org/kam)

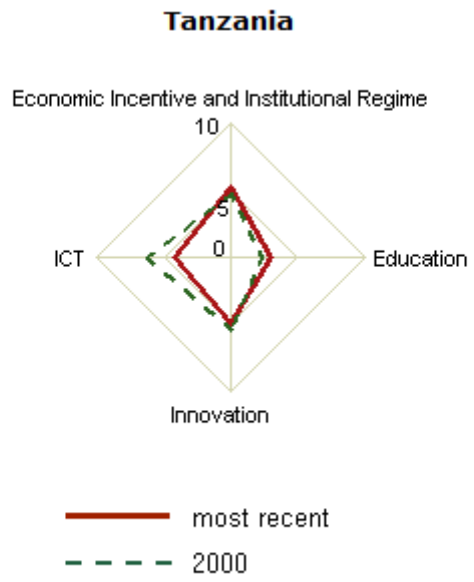
Figure 2.8: United Kingdom – KEI 2012 and 2000; Normalization Group: Europe & Central Asia and All countries



Index	South Africa (2012) Group: Africa	South Africa2000 Group: Africa
1.Knowledge Economy Index (Average of 3,4,5,6)	9.25	9.39
2.Knowledge Index (Average of 4,5,6)	9.44	9.76
3.Economic Incentive and Institutional Regime	8.69	8.25
4.Education	9.74	9.86
5.Innovation	9.87	9.76
6.ICT	8.71	9.67

Source: The Knowledge Assessment Methodology (KAM) website (www.worldbank.org/kam)

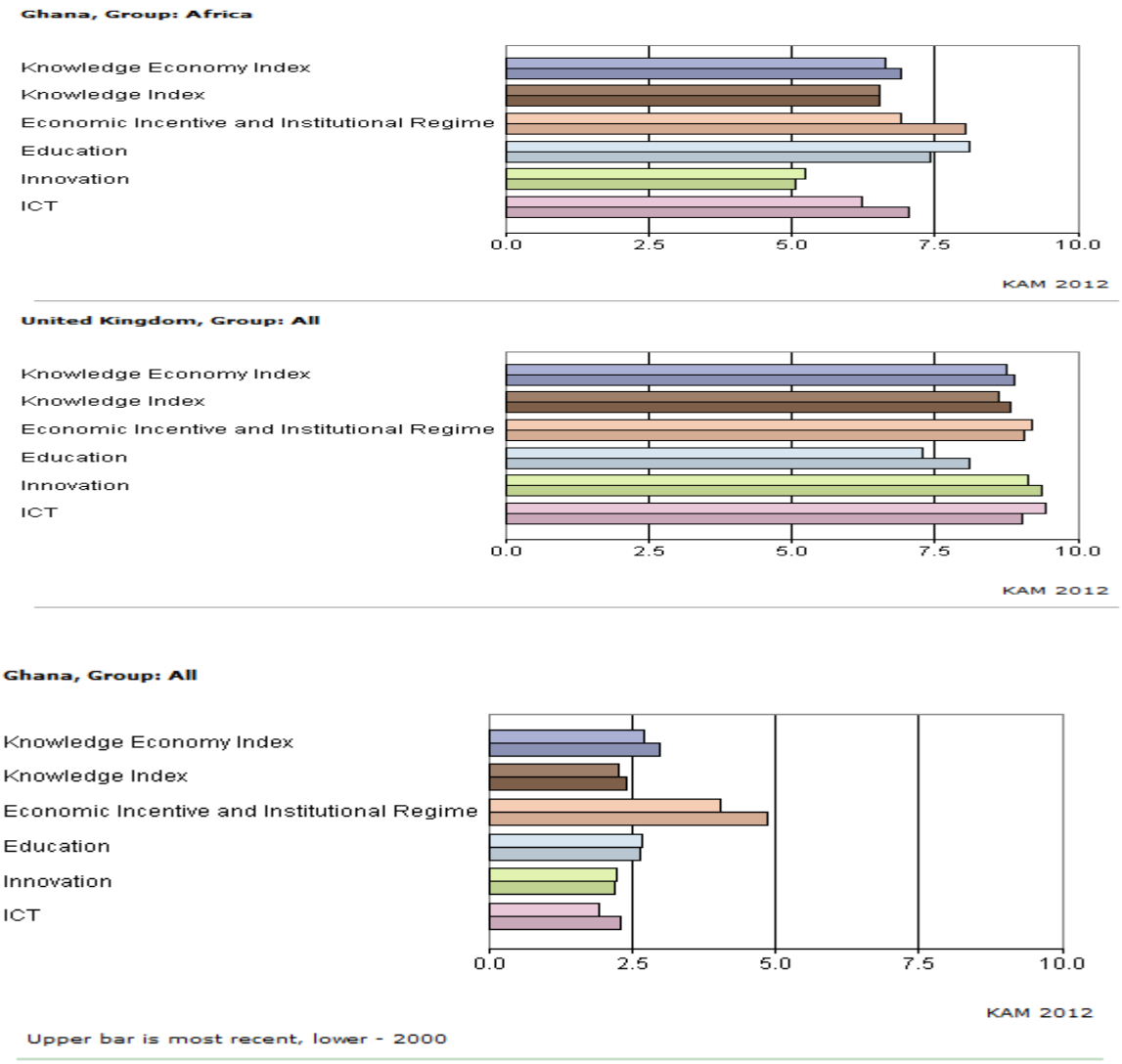
Figure 2.9: South Africa – KEI 2012 and 2000; Normalization Group: Africa



Index	Tanzania (2012) Group: Africa	Tanzania2000 Group: Africa
1.Knowledge Economy Index (Average of 3,4,5,6)	4.39	4.77
2.Knowledge Index (Average of 4,5,6)	4.08	4.74
3.Economic Incentive and Institutional Regime	5.31	4.86
4.Education	3.05	2.38
5.Innovation	4.98	5.42
6.ICT	4.19	6.41

Source: The Knowledge Assessment Methodology (KAM) website (www.worldbank.org/kam)

Figure 2.10: Tanzania – KEI 2012 and 2000; Normalization Group: Africa



Index	Ghana (2012) Group: Africa	Ghana 2000 Group: Africa	United Kingdom (2012) Group: All	United Kingdom 2000 Group: All	Ghana (2012) Group: All	Ghana 2000 Group: All
1.Knowledge Economy Index (Average of 3,4,5,6)	6.63	6.9	8.76	8.89	2.72	3
2.Knowledge Index (Average of 4,5,6)	6.53	6.52	8.61	8.83	2.28	2.39
3.Economic Incentive and Institutional Regime	6.92	8.04	9.2	9.06	4.05	4.85
4.Education	8.12	7.41	7.27	8.11	2.68	2.64
5.Innovation	5.24	5.08	9.12	9.38	2.24	2.21
6.ICT	6.24	7.05	9.45	9.02	1.93	2.3

Source: The Knowledge Assessment Methodology (KAM) website (www.worldbank.org/kam)

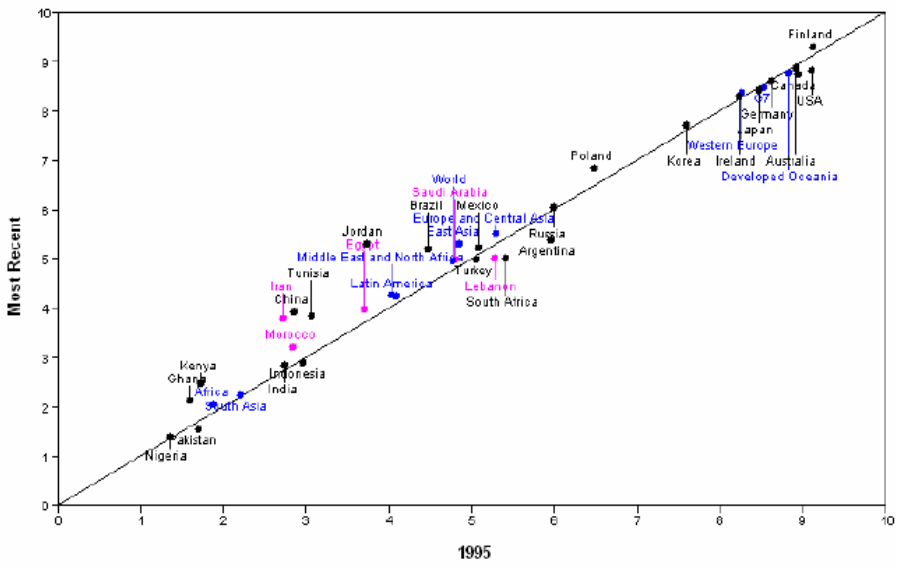
Figure 2.11: Ghana and United Kingdom – KEI 2012 and 2000; Normalization Group: Africa and All Countries

Apart from the basic scorecard, the KAM also provides the user with the flexibility to customize various combinations of variables to be included in benchmarking comparisons. The “Create Your Own Scorecard” mode allows the user to compare any two countries or regions for any of the 148 variables included in the KAM database, divided into 8 functional cuts (See Appendices 1 to 7). Very frequently, this mode is used to generate scorecards that focus solely on individual pillars or sectors of the knowledge economy.

While there are several ways to illustrate performance in the KEI, the Global Knowledge Economy Comparisons mode presents a simple way to visualize and compare countries and regions, in terms of their development towards a knowledge economy, by plotting them in a scatter plot based on their relative performance in the KEI for two points in time; for example 1995 and most recent (in this case 2000) is shown in Figure 1.11. The horizontal axis plots countries’ and regions’ performance in the KEI in 1995, while the vertical axis plots countries’ and regions’ performance in the KEI for the most recent year, currently 2012. The diagonal line represents the locus of points where the KEI values in 1995 and in the most recent year are equal. As such, countries and regions that appear above the diagonal line have made an improvement in the KEI since 1995, and countries that appear below the diagonal line have experienced deterioration in terms of the KEI.

The countries that appear in the KEI scatter plot can be loosely grouped into three broad categories in terms of their development towards the knowledge economy. Firstly, located near the top-right corner of the scatter plot, are a group of countries that are in the advanced stages of development in terms of the knowledge economy. These are mostly the economies of the OECD and those of the East Asian Newly Industrializing Economies (NIEs). Next, around the centre of the scatter plot are a group of countries that are midway through the transition to the knowledge economy. Majority of the countries are in this category which typically include the middle income countries from Europe and Central Asia, East Asia, Middle East and North Africa, and Latin America. Lastly, countries that have just embarked on the path to becoming a knowledge

economy appear around the bottom-left portion of the scatter plot, and these typically include the low-income economies from Africa and South Asia.



Source: The Knowledge Assessment Methodology (KAM) website (www.worldbank.org/kam)

Figure 2.12: Knowledge Economy Index 1995 to 2000 (MENA Countries)

Over Time Comparison demonstrates countries' progress on Knowledge Economy pillars and indexes from 1995, 2000 and the most recent year. Cross-Country Comparison allows bar-chart comparison of up to 20 countries on their KEI and KI indexes from 1995, 2000 and the most recent year.

The KAM has successfully been used in facilitating engagements with World Bank country teams as well as policy discussions with government officials from client countries. Moreover, the KAM has been broadly applied to various economic and sector work such as those for China, India, South Korea, Japan, Finland, Mexico, Argentina, Chile and Slovakia. The KAM as a tool plays a critical role in World Bank country operations. This made possible because of its features.

Firstly, the KAM is based on the knowledge economy framework, which is holistic in nature as it identifies and integrates four areas that are crucial for knowledge to contribute effectively to sustained economic growth. Secondly, The KAM is user-friendly and this has certainly contributed to its widespread use. It requires virtually no training other than some basic familiarization that the users can undertake for themselves online. Furthermore, the KAM has the ability to perform analysis or benchmarking using variables or indicators that are beyond the 14 pre-selected variables in the KAM basic scorecard. As it has been seen, the user has the flexibility to choose to benchmark countries using any of the 148 variables in the KAM database. This is an important feature as certain variables may be more relevant for some countries, but less relevant for other countries. This option significantly increases the versatility of KAM by allowing the user to select the variables that are the most relevant for the country being analysed. In addition, with this option, the KAM has the ability to perform analysis on a sectoral or individual KE pillar basis.

Perhaps the most important feature of the KAM is its ability to place countries' and regions' performance in a global comparative context. The current version of the KAM, *KAM 2012*, has the ability to benchmark countries contemporaneously either using data for the most recent period or that for 2000 and/or 1995. The ability to compare countries' performance across the two or three time periods is also useful for highlighting whether countries are catching up or falling behind over time.

2.2.4 Towards A Knowledge-based Economy: The United Kingdom and the United States

Britain cannot pin its future on banking or manufacturing but must look to the "knowledge economy" for growth, according to a report from the Work Foundation (The Daily Telegraph, 2012). The UK needs strong universities, an open-border policy to lure global talent, nurturing high-growth local companies, and maintaining investment in research and science will be vital if it is to reinvent itself after a decade of misplaced growth "based on financial services,

property and a self-sustaining construction bubble", the paper reported. The report notes that the UK Government has yet to establish a coherent approach to the knowledge economy. Some of its most expensive policies, for example enterprise zones and the corporation tax cut, are based on a backward looking view and will do relatively little to drive lasting growth, the report further noted. Charles Levy, the report's author, a senior economist said UK's growth for the last 40 years was driven by the technology, pharmaceutical, creative, and business service industries which are among those central to the "knowledge economy." These industries contributed 66% of all growth since 1970 and 7.3 million new jobs since 1978, the author of the report indicated.

The senior economist stressed that "the knowledge economy must now be recognized and supported as the only viable route to a sustainable, balanced economy for 2020… Without it, we cannot hope to maintain current wage levels and consumption habits. Traditional measures such a sweeping tax breaks and blanket reforms will not achieve the stable, lasting growth we need." The report is a response to the Government's "Plan for Growth". Levy concluded by noting that "central to success will be continued "reform of higher education funding, enshrining two principles – the ability to sustain future expansion and the introduction of strong incentives for teaching excellence". He added: "The UK is at a tipping point. The coming decade will determine whether the UK emerges from the crash as a stronger, more stable economy, or whether it drifts into stagnation and stubbornly high unemployment."

The report examined the above highlights, the challenges of cultivating a knowledge economy vis-à-vis the growth opportunities that such a stride presents. It is apparent that the case of an industrialized country like Britain sustaining its knowledge economy has not been smooth sailing. The Government, working through the public institutions, must be certain of and resolute about the appropriate policies to pursue to transform the economy into knowledge based. A challenge in this area is how to maintain a balance in the regional knowledge economy of the country. In a research study, ***A Regional Perspective on the Knowledge Economy of Britain,*** conducted by The Local

Futures Group between June 2011 and January 2012, it was reported that the knowledge economy of Britain was uneven. The research and strategy consultancy Group, that creates and promotes a geographical perspective on economic and social change presented the results of a Regional Economic Architecture (REA) – a model that provides a unified (demand-supply) view of knowledge economy using employment and skills indicators as 'building blocks' and using EC benchmarks for measuring the knowledge intensity of industries. The Group reported that: "The REA analyses clearly show that London dominates the British knowledge economy, accounting for around 30 per cent of its 'knowledge-intensive' business employment – private sector-led industries where graduates make up at least 25% of the workforce. In the majority of regions, for example the North East and East Midlands, the business drivers of the knowledge economy are relatively weak, and the public sector (education, health etc) plays the central role in knowledge-driven development and, by corollary skills formation. This uneven or centralised geography of the knowledge economy in Britain has profound implications – such as 'brain drains' that undermine capacity building, graduate under-employment and local bottlenecks for people with intermediate qualifications. The reality is that there are two incompatible geographies of the knowledge economy: a relatively distributed pattern of growth in qualifications and the graduate labour pool contrasting with a highly concentrated pattern of knowledge-intensive job creation that favours London and its hinterland, and the South East more widely. These regional and also local and sub-regional imbalances focus attention on geographical, occupational and industrial mobility issues in the knowledge economy".

It will also be imperative that the Government forges appropriate public-private partnerships with the private sector to promote the attainment of this lofty developmental agenda.

The knowledge economy thrives on innovation; the ability of a country or an organisation to apply knowledge from internal and external sources to bring a positive change in the universe of discourse. In other words, every knowledge-

enabled advancement or technique has a role to play in the knowledge economy. It is against this backdrop that Will Hutton, Chair, Big Innovation Centre at the Work Foundation, makes the following assertion: “For the UK to revive its fortunes, overcome recessionary pressures and re-join the top-table of growth nations, we need to be ingenious, focused and nimble. The complex socio-economic issues we face in the UK and elsewhere mean that new approaches are needed” (Design Summit, 2010). Will Hutton poses some tough questions for Britain: “Are we playing to our strengths? Are we mixing the skills and capabilities that are the foundation stones of innovation – skills such as technology, design and enterprise?” Hutton concludes that design needs to be an integral part of the new innovation ecosystem and he endorses some of the Design Council’s recent ‘open’ collaborative approaches to innovation.

The United States (U.S.) is not different from the United Kingdom in its longstanding efforts at turning the economy into knowledge-based. Steve D. White, a professor of marketing and international business at the Charlton College of Business, University of Massachusetts, Dartmouth, noted the following on his blog, *All Things Marketing,* when he wrote on the foundation of the U.S. knowledge-based economy: “According to official U.S. sources reporting the Gross Domestic Product (GDP) data, the U.S. became a service-based economy (majority of Gross Domestic Product made up by services) at the end of 1958, beginning 1959, much earlier than previously proposed. Today, services make up 70% of total U.S. GDP ($9.8 trillion out of $14.07 trillion). Following the logic of total factor productivity, the argument can be made that the U.S. officially became a knowledge-based economy, simply measured as the point at which a majority of total service exports are made up of knowledge-based services, at the end of 1997, beginning 1998”.

The rise of the Internet and proliferation of information technology (IT) have coalesced to create a networked infrastructure of global proportions. The development of the global knowledge economy, which has been accelerated by this phenomenal advancement, has necessitated the evolution of business models driven by expertise and intellectual capabilities. Underlying this new

model is the idea of collaboration and networking. One characteristic of the global knowledge economy is that national economies are largely inseparable from the larger global economy.

For these ramifications of the global economy, the United States, like many other countries, is more dependent on the rest of the world than ever before. The Software and Information Industry Association (SIIA) asserts the pervasive role of the software and information industries on the US and global economy in a report (Software and Information: Driving the Global Knowledge Economy, 2008). According to the SIIA, "This report provides much needed data to help inform policymakers and thought-leaders seeking to understand and develop policy and regulatory frameworks promoting strong growth, innovation and continued U.S. global leadership in the increasingly competitive global knowledge economy.

2.2.5 Towards A Knowledge-based Economy: The European Economies

In a report prepared by the Work Foundation for the European Union Spring Council in 2007, Europe's attempt to move towards a knowledge-based economy was thoroughly examined on a number of indexes. These included knowledge industries in Europe and knowledge industry employment, technology-based services, and investment in knowledge.

The European Union had a strategic goal in 2000 (for the next decade) to become the most dynamic and competitive knowledge-based economy in the world (Lisbon 2000 EU Council Strategy objective). The Work Foundation report notes that "Europe has seen a significant expansion in her knowledge industries over the past decade and at similar rate to the expansion of knowledge-based employment in the U.S. Moreover, in 2005 the size of Europe's knowledge economy measure by the share of total employment in knowledge industries is similar to the U.S.". The report further reveals that the economic dynamism of faster growth and high productivity that must accompany such strides towards knowledge-based economy is absent.

“Productivity growth has fallen in many EU States rather than accelerating, in contrast to the U.S. The key underlying reason is a slowdown in the pace of technological innovation and a failure to increase investment in knowledge across the EU. Increasing investment in Research and Development (R&D) as a share of GDP must remain a key objective. [Furthermore] the Lisbon target of 3 per cent of R&D of GDP is not realistic and lacks a clear justification. New fiscal measures, such as tax credits, have a role but their impact on aggregate R&D spending as a share of GDP is likely to be small”, according to the report.

The Work Foundation, in looking beyond the narrow confines of R&D and innovation as a catalyst for improved productivity and growth, urged the Spring 2007 Europe Union Council to endorse and implement the key recommendation of the Aho Report (Towards a European Pact for Research and Innovation, 2006). The European Pact for Research and Innovation intended to supplement the Lisbon Agenda focused on three areas:

- Creating innovation friendly markets in key sectors such as pharmaceuticals, energy, environment, transport, security and digital content.
- Trebling the share of the Structural Funds spent on R&D. The 3 per cent target is an indicator, not an end in itself.
- Greater resource mobility, including cross border mobility of labour, new financial instruments to provide venture capital, and mobility in organisation and knowledge through European technology platforms and clusters.

The Work Foundation report recognized the efforts of successive Presidencies from 2004 onwards to develop innovation policy in the direction set out in the Aho report, a move that would help complete the rebalancing of the policy focus between innovation inputs such as the share of R&D in GDP, and outputs measured by innovation activity. In essence, the key priority for Europe’s drive towards a knowledge-based economy is building innovation frameworks. According to the Work Foundation, their knowledge economy programme will be looking in more detail at many of these issues, including the drivers of R&D

and innovation in the service and public sectors, and hoped to offer further insights into how Europe can maximize the economic rewards from developing a knowledge-based economy.

It is worth mentioning that institutions like the Work Foundation, the World Bank Institutes among others, undertake policy analyses (both private and public) to shed light on the advancements in socio-economic development such the knowledge economy to advance the debates on such developments. Through such debates and forums, the frontiers of human socio-economic development will be expanded.

2.2.6 Towards A Knowledge-based Economy: Countries in Asia

The Knowledge economy, spurred by the evolution of the information and communications technology (ICT), is shifting the basis for economic activity from material and labour inputs to knowledge and information input. In East Asia, it is evident that this globally transforming phenomenon is disrupting the flying geese pattern of development and creating a new industrial geography (Masuyama and Vandenbrink, 2003). According to Masuyama and Vandenbrink (2003), some of the economies in the region find the increased production of ICT equipment and services as the pathway to the knowledge-based economy and even to leapfrog ahead of more advanced economies. They include South Korea, Taiwan and China. To others, including Thailand, the Philippines and Indonesia, the priority is to put in place the physical and institutional infrastructure to connect to electronic networks and avoid the digital divide. The third category including Hong Kong, Singapore and Japan whose role in the region is expanding, are adding the role of ICT hub, due to the emergence of the knowledge-based economy.

The economic impact of the advances in information and communications technology (ICT) over the past decades has been profound. With the new digital communication technologies expanding the capability of the computer beyond simple computations, thus spawning the ICT revolution, the efficiency of

production, distribution and innovation processes have drastically improved (Brynjolfsson and Hitt, cited in Masuyama and Vandenbrink, 2003). Due to the pervasive effect of the ICT revolution in the economy, it is expected to become the rallying point of the global economy in future. For instance, the use of the Internet reduces the cost of business-to-business and a business-to-customer transaction, enables and eases innovation activities, and greatly enhances managerial capabilities and efficiencies. Embracing the full potential of the ICT revolution, the journeys of the economies of South Korea, Taiwan, and China towards knowledge-based appear to have been paved.

South Korea's Development Plan for Knowledge-Based Economy, articulated and implemented in 2000, emphatically points to ICT as a "core" policy area alongside education and human resource development, R&D and the national innovation system, a social safety net, and industrial upgrading. To give leverage to the ICT component of the Development Plan, Korea's Ministry of Information and Communication (MIC) prepared a blueprint for an information society, Cyber Korea 21, which sets out vision, goals and actions aimed at security a leadership position for Korea in the global knowledge economy. The impact of such a bold step can be seen today as Korean companies are now market leaders in many segments of the hardware and telecommunication equipment markets and possess strong competencies in these areas as well. It is expected that a move towards a more efficient model of ICT provision and services will not only consolidate the gains made so far but further propel the country in its quest to become knowledge economy.

Taiwan's transition from an industrial economy to a knowledge-based economy has been propelled by the ICT revolution. The export-oriented trajectory of industrialization is giving way to new strategies that have seen economic activities undergoing qualitative change. Taiwan was ranked first for knowledge economy in Asia according to the World Bank's 2012 Knowledge Economy Index (KEI). This placed country 13th out of the 146 countries surveyed for the study. Taiwan's drive towards becoming a knowledge-based economy has

been phenomenal as it was ranked 16th in the region in 2000. Growths in education and ICT were remarkable.

2.2.7 Towards A Knowledge-based Economy: Middle East Countries

According to the World Bank (2008), the population of the Middle East is young. About 33 per cent are less than 14 years old, and over the next 20 years they will need to be employed. It is estimated that about 100 million jobs will have to be created, or 5 million a year, to keep this enormous untapped resource pool of youth in productive pursuits. The World Bank also reveals that unemployment among the youth in the region is the highest in the world, averaging more than 25 per cent, and many are relatively well-educated first-time job seekers. Most countries in the region are lagging behind because they have not taken advantage of the benefits of the global economy. Though the region is very diverse in terms of wealth and size of country, they all face upcoming challenges. The oil and gas-producing countries will have to brace themselves for a most certain post-petroleum and post-carbon future, but virtually all countries in the region will face major water, energy, food, and climate change issues in the decades to come, according to the World Bank.

To address some of these issues, the World Bank Institute in May 2009 delivered a workshop in Alexandria, Egypt. Teams from different countries including Algeria, Egypt, Kuwait, Morocco, Qatar, Saudi Arabia, and Tunisia exchanged ideas and experiences with the aim of formulating strategies towards transition to knowledge-based economies.

Building on this event, the World Bank reports that “the World Bank Institute, in partnership with the World Bank’s Middle East and North Africa Region, helped the Tunisian government and the Islamic Educational, Scientific and Cultural Organisation (ISESCO) to prepare a high-level event in Tunisia, December 1-3, 2009: *MENA Countries in the 21st century- Building Knowledge Economies for job creation, increased competitiveness and balanced development*. Participating countries presented case examples and their approaches to

becoming part of the global Knowledge Economy, according to the World Bank. The World Bank believes the countries in the Middle East can forge ahead by taking a cue from industrialized countries that took the risk of redefining their futures during the last two decades of the 20th century. That, increasing the quantity and quality of knowledge in the economy made the industrialized countries more agile in adapting to economic shifts and demands, and better able to participate in international networking, a necessary condition for taking advantage of new information (and knowledge) and opportunities.

The World Bank makes the following observation: "Countries that succeeded in tapping into the global knowledge economy kept learning new ways of doing things. They raised the quality of their education system at all levels – from early childhood through to advanced higher education and lifelong learning. They promoted "innovation ecology" where creativity could flourish in applied research and science and technology, attracting foreign investment to support new ideas. They made it easier for businesses to operate by streamlining administrative and tax requirements, supporting entrepreneurship, and making local living conditions more attractive for international corporate staff. They made large investments in the information and communication technologies (ICT) infrastructure and in using the internet for education and e-government.

Also, these countries have governments that people can trust and where the civil service is based on merit and high performance standards. They were therefore able to implement speedy reforms, gain commitment of top leadership, and coordinate key sectors and activities, and consult and communicate among all the stakeholders. This was facilitated by an ambitious and bold public vision: in all successful cases, the government mobilized the nation toward the common goal.

"Finland, for example, quadrupled public spending on research and development in a time of crisis, inspiring current counter-cyclical investments in innovation. Ireland lowered the corporate tax rate to attract foreign direct investment. Korea rapidly boosted its broadband density and usage to the point where it is one of the world's highest".

The World Bank reports that many countries in the Middle East have already embraced this transformative concept of the Knowledge Economy, and some, such as Qatar and Tunisia are already making strides in that direction. But, strives towards becoming a knowledge-based economy by countries in the Middle East are not expected to be as "smooth" as that of some of the highly industrialized nations such as Finland, UK and the U.S. The national context, culture and circumstances, including political, would have to be adapted in the pursuit of such as critical journey. The December 2009 conference in Tunisia addressed some of these issues and countries present were set to tackle them as best as possible. The participating countries included Algeria, Bahrain, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Palestinian Authority, Qatar, Saudi Arabia, Somalia, Sudan, Syria, Tunisia, United Arab Emirates, and Yemen.

The main challenges identified at the conference included:

1. Absence of regional collaboration mechanisms to share experiences and develop cross-border projects and initiatives on the Knowledge Economy,
2. Limited focus on building a trust-based society and high-performing governments, which were highlighted by participants as essential for building a Knowledge Economy,
3. Insufficient sectoral integration of the Knowledge Based Economy strategies,
4. With very few exceptions, absence of high level leadership and insufficient mobilization efforts.

The conference led to the adoption of the ***Tunis Declaration on Building Knowledge Economies***. The declaration stresses the importance of Knowledge Economies for all countries in the region, and calls for the creation of a network of specialized experts and technical officials who would share experiences and expertise, follow up on national efforts, encourage regional initiatives, and publicize international experiences on knowledge-based

economies, among other actions. It also calls on the Tunisian government, ISESCO, and the World Bank to continue their efforts to help build Knowledge Economies in the region and facilitate regional collaboration.

2.2.8 Towards A Knowledge-based Economy: African Countries

Britz, *et al.* (2006) undertook a reality check as to whether Africa is moving towards a knowledge society. They analysed the effectiveness of on-going initiatives aimed at putting the continent on the road towards a knowledge-based economy. The main findings of their research indicated that Africa has still a long way to go to become a true knowledge society – "a society that operates within the paradigm of the economics of information. It values human capital as the prime input to production and innovation. A knowledge society is well connected via modern ICTs to the dematerialized economy, and has access to relevant and usable information. A highly sophisticated physical infrastructure underpins this economic model and allows the delivery of the material objects that are accessed and manipulated in the dematerialized world of modern ICTs", according to Britz, *et al.* (2006). This definition is consistent with the position of this thesis.

However, Britz, *et al*. present a positive picture of a successful transformation of Africa into a knowledge society if certain preconditions are met. Such conditions include: investment in human capital, effective stopping of brain draining as well as the effective development and maintenance of physical infrastructure.

The World Bank also believes in the potential of African economies to become knowledge based. The first of the World Bank's 'Knowledge Economy Forum' series of conferences was held in Johannesburg, South Africa in May 2006 and a follow-up seminar was subsequently held in September of the same year, also in Johannesburg. The Governments of South Africa and Finland hosted these major Knowledge Economy conferences. The conferences aimed to create the right forum to discuss how African countries can access and apply knowledge to

grow and become competitive by enhancing the understanding and awareness of the global phenomenon of the knowledge economy. Key African policymakers and interested stakeholders were provided the unique opportunity to share knowledge on innovation policies that can contribute to sustainable economic development in the African context. They discussed and shared their experiences and challenges of building knowledge-based economies. One issue that was stressed and African countries urged to promote was the need to address access to, and use of, knowledge, while admitting that the journey toward a knowledge-based economy was a difficult one. The conferences noted that partnerships between government, civil society, the private sector and academia are crucial for achieving this lofty goal. In summary, the conferences achieved the following:

- Stimulated the African policy dialogue on knowledge for development,
- Renewed the call for increased global investments in Africa's knowledge generating infrastructure and capacities, and
- Presented opportunities to map out new international partnership modalities to assist Africa's integration into the global economy.

The public sectors of the various African countries generate huge knowledge resources but this is hardly harnessed. Many reasons account for this, including lack of awareness of this wastage and the absence of any priorities on the part of governments to devise mechanisms of tapping this resource for competitive advantage of the sector and to improve economic development in general. In March 2008, the World Bank, in partnership with South African Department of Science and Technology and the Government of Finland, published a report titled *Knowledge for Africa's Development: Ten Priorities*. The publication sought to project the role of Science, Technology and Innovation in building a knowledge-based economy in Africa. The ten priority thematic areas the publication outlines include:

1. Knowledge and Innovation. Knowledge and innovation play a central role in the development process. The emergence of the knowledge economy has accentuated the importance of knowledge as an important factor in

development and being the first to be identified was not coincidental. The conference noted the emerging role of innovation as a vehicle for addressing the complexity of the knowledge economy. In this context, innovation has been defined as 'the process of creation, exchange, evolution and application of knowledge to produce new goods, services or social arrangements that are experienced as beneficial to the community, a market, or society'.

2. Building Integrated Policies. The conference indicated that because the knowledge economy occurs in the context of integrated systems, the policies that governments develop to support it must be cross-cutting in nature.

3. Mobilising Leadership for the Knowledge Economy. Leadership is the driving force in any endeavour and the conference admitted that the role of leadership is indispensable in order to realize the vision of the knowledge economy for Africa.

4. Innovation by Local Communities. In the African context, the definition of innovation must encompass both economic development based on the conceptualization and commercialization of new products and services, and also social development that improves the quality of life of impoverished communities, and not the least, innovative social development by individuals and groups from within those communities, the conference proposed.

5. Innovation Aligned with Domestic Strengths and National Needs. African research and African education needs to focus first and foremost on African needs. For instance, education based on Western curricula only prepares prospective graduates for the Western market. This must be blamed in part for Africa's brain drain menace. The conference pointed out that the education system, for instance, must prepare graduates for the different national realities.

6. Education Reform to respond to the demands of the Knowledge Economy. The most important question concerning education relates to the changes and reforms that need to take place in African education systems to enable them to respond to the demands of the knowledge economy. Africa faces

the enormous educational challenges at the primary and secondary level. Africa has the poorest installed educational infrastructure, the lowest enrolment rates, and the lowest numbers and quality of secondary school teachers. Any education reform embarked upon should not only address the issues of infrastructure and personnel, but must incorporate mechanisms that will foster life-long learning attitudes among students. It is the effective resolution of these challenges that will ensure a continual supply of knowledge workers who will drive the knowledge economy.

7. ICTs: Fundamental Infrastructure and Enabler of the Knowledge Economy. The position of the conference on the role of ICTs was summed up thus 'Although ICTs alone cannot develop a country, in this day and age, it is not possible for a country to develop without the ubiquitous use of ICTs across all sectors of society.

8. Open Development Process. One characteristic of the knowledge economy is the spontaneous emergence of open development communities (e.g. Communities of Practice and Communities of Interest) and access to the knowledge and technologies that these communities possess. Accentuated by the advancement and improvements in internet technologies and access, these communities, coupled with the digitization of knowledge such as in the areas of open educational resources (OER) and open standards, make the transfer of knowledge and technology more accessible to a wider number of people than ever before.

9. Building on the Know-how of Others. International partnerships, both on the continent of Africa and globally, that are mutually beneficial and that avoid asymmetric engagements that reinforce dependency, is a challenge that all African countries must embrace. Countries that are able to attract the best ideas and technology have a unique advantage in the knowledge economy. To fully benefit from the know-how of others, local talents or skills must not be out of date: users of these knowledge assets much be knowledgeable, they must be well-informed. This also requires instituting processes that will transform knowledge workers into life-long learners.

10. Strategic Monitoring and Evaluation. On this last, but not least priority, the conference indicated that Monitoring and Evaluation (M&E) mechanisms

> and practices are essential for all initiatives related to the knowledge economy. Learning by doing, a staple approach in the knowledge economy, will never reach its potential without carefully-coordinated M&E.

Since the knowledge economy conference in Johannesburg, South Africa, in May 2006, many African countries, some already undergoing public sector reform, have taken the ten knowledge economy priorities on board. But the economic impact of whatever interventions they are pursuing and most importantly their contribution towards the journey to a knowledge-based society will take some time to show. As part of this thesis, Ghana's efforts toward becoming a knowledge society (either overtly or covertly), will be reviewed.

2.2.9 Towards A Knowledge-based Economy: Ghana

Ghana is a country with a population of nearly 24 million (2010 census) and lying in the equatorial region of West Africa. Being the first African country south of the Sahara to gain independence from the British in 1957, Ghana has come a long way in transforming its economy. Reforms in education, the financial and public sectors and political regime have been decisive. The country's political stability since 1992, when it changed from a military regime to democratic governance, has earned it the accolade 'gateway to West Africa'. Regional and international development partners have developed special interest in Ghana's economic and political credentials which have seen countries soliciting its support in areas such as national health insurance scheme, elections management and parliamentary protocols.

The country's economic prospects shot up with the discovery of oil between 2006 and 2008. It is estimated that Ghana may become a major oil exporter in the years to come. The sound financial footing that Ghana may potentially attain through the judicious use of its oil revenues should enable the country mobilize the resources needed to transform the country's current agrarian economy into one that is knowledge based.

A World Bank's Knowledge for Development policy workshop held between May-September 2002 for Ghana, Tanzania and Uganda, prepared a knowledge economy benchmark assessment of Ghana and the other countries. Inputs received from participants formed the basis of a Preliminary Knowledge Economy Assessment of Ghana Report issued by the World Bank in September 2003. A preliminary observation based on data analysed including the Human Development Index (HDI), showed that Ghana had had a steady growth in human development and per capita income over 20 years, but its growth performance could have been improved. The report revealed that Ghana risked falling further behind because it was not exploiting its potential and was not tapping into global knowledge. Ghana was urged to develop strategies to use existing and new knowledge to improve performance in the traditional sectors and to develop competitive new sectors. It was also suggested that Ghana must assess where it stood in terms of progress towards becoming a knowledge society and also learn from other countries.

In the estimation of the World Bank, overall, in terms of its ability to compete in knowledge-driven global economy, Ghana's position had improved but not yet to the point where a significant breakthrough could be made in terms of self-sustaining economic growth. According to the World Bank, the challenge for Ghana is how to build on the progress made so far to take advantage of the opportunities offered by the knowledge economy. In other words, continuing to build the conditions for the more effective creation, access and use of knowledge, while at the same time taking practical steps, driven by knowledge initiatives, to stimulate new forms of income generation. In particular, the report encouraged Ghana to raise awareness among policymakers, private sector and civil society on the challenges and opportunities of the knowledge revolution, while developing coherent strategies to take advantage of opportunities and reduce adverse impact.

On the way forward for Ghana, the World Bank report proposed the following:

1. Ghana must go beyond analysis of problems to developing concrete initiatives to improve knowledge economy performance;

2. The success of further reform programmes will require creating stakeholder awareness (government, public sector and civil society),
3. Consultation and discussion are necessary to create stakeholder ownership,
4. Formulation of monitorable goals with constant evaluation is key to improving performance,
5. Ghana must be swift to adjust to changing circumstances.

The World Bank also proposed a two-phased option for future work on Ghana's journey towards knowledge-based economy. The first phase involved starting a consultative process in-country on who to move ahead with the knowledge economy agenda and the second, a more substantial study designed to go more deeply into some identified key issues for Ghana to present more detailed recommendations.

In their research, *Replicating the Knowledge Society in Ghana: A Qualitative Policy Review*, Sharma, *et al* (2008) developed a K-SWOT (Knowledge-SWOT) model using variables derived from a 13-dimensional knowledge economy framework developed by the authors and data from the Knowledge Economy Index (KEI) compiled by the World Bank and the Human Development Index (HDI) developed by the UNDP. The K-SWOT gives a measure of a country's readiness or drive towards the attainment of a knowledge society. Strength gives a measure of the country's visible knowledge economy characteristics which are capable of helping her to achieve her knowledge societal goals. Weakness, on the other hand, indicates the drawbacks that are barriers or hindrances to achieving knowledge economy status. Opportunities relate to external knowledge factors that could be tapped into. And finally, Threats point to external traits capable of hampering the progress to knowledge economy status.

The findings of the study noted Ghana's strengths in the following, which were mainly internal factors as follows: liberalized mass media, social cohesion,

adherence to the rule of law and commitment to human rights and freedoms. Internal weaknesses included: lack of value addition to the country's raw material exports, low higher education enrolment, inadequate research and development, poor access ICT, uncertain political vision and strategy, absence of business environment that rewards innovation and lack of creative skills and developments that would warrant patents. In spite of the internal weaknesses of the country, the study found out that Ghana can take advantage of external opportunities by drawing knowledge network bilateral agreements with its trading partners, almost all of whom are knowledge societies, including Malaysia, United Kingdom and the United States.

Ghana has a long way to go in its quest to compete favourably in the global knowledge economy. Every facet of the country's socio-economic life must be made amenable to the reception and use of existing and new knowledge. This is indeed a herculean task requiring informed leadership, both in the public and private sectors. A national agenda geared towards this course will not only require the concerted efforts of all stakeholders, but will also take some time to materialize. For this reason, 'localized efforts' by individuals and institutions to create awareness of and advance the debates on propelling Ghana into the ranks of knowledge-based economies must be supported by the government, development partners and relevant stakeholders.

The Government of Ghana is set to provide this support. In his 2013 State of the Nation Address, the president of the Republic of Ghana, His Excellency John Dramani Mahama, acknowledged the universality of the quest by nations to become knowledge based and underscored the need for Ghana to 'marshal all efforts' to be a part of this new wave (Ghana Parliamentary hansard, February, 2013).

It is worth cataloguing the modest strides the country has made since the World Bank's knowledge economy policy workshop which did set some development targets for the government of Ghana. The following sectors have benefited from initiatives that have brought some remarkable Improvements: agriculture,

ports and harbour, public administration, trade, education, ICT infrastructure, among others.

A dividend from the workshop was the drafting of the National Information Communication Technology for Accelerated Development (ICT4AD) Policy document in June 2003. It is a policy document intended for the realisation of the vision to transform Ghana into an information-rich knowledge-based society and economy through the development, deployment and exploitation of ICTs within the economy and society. In addition to established government institutions including the Ministries of Communication, Information, trade and development partners, relevant bodies have been set up to champion this cause. They include the National Information Technology Agency (NITA) mandated to deploy the needed communication infrastructure throughout the country.

Ghana's ICT4AD defines 14 policy priority areas and focus. They include:

- Accelerated Human Resource Development
- Promoting ICTs in Education – The Deployment and Exploitation of ICTs in Education
- Facilitating Government Administration and Service Delivery – Promoting Electronic Government and Governance
- Facilitating the Development of the Private Sector
- Developing and Export-Oriented ICT Products and Services Industry
- Modernization of Agriculture and the Development of an Agro-Business Industry
- Developing a Globally Competitive Value-added Services Sector (A Regional Service and ICT Hub)
- Deployment and Spread of ICTs in the Community
- Promotion of National Health
- Rapid ICT and Enabling Physical Infrastructure Development
- Legal, Regulatory, and Institutional Framework Provisions
- R&D, Scientific and Industrial Research Capacity Development
- Promoting Foreign and Local Direct Investment Drive in ICTs
- Facilitating National Security and Law and Order

A more recent initiative is the e-government project with the aim of linking businesses to the tax authorities. For instance, activities within the Registrar

General's Department, charged with the registration and regulation of businesses, and those of the Ghana Revenue Authority will be harmonised to enhanced tax compliance.

The sections following critically examine the subject of knowledge management. An attempt is made to review the concept of Knowledge and explore its philosophical ramifications. Furthermore, the dual perspective of knowledge management – a discipline and a practice – is gleaned from the extant literature.

2.3 EXPLORING KNOWLEDGE MANAGEMENT DISCIPLINE

Knowledge Management is arguably one of the popular topics in the area of information research. Our daily lives are fraught with data and information; but it is well known that a collection of data is not information, and a collection of information is not knowledge. Some amount of 'processing' or 'extraction of value' is required to transform information into knowledge. We need knowledge management to be able to extract value from data and information. Even though writers of knowledge management literature and practitioners alike do not agree on a universal definition for knowledge, and hence knowledge management, they nonetheless sing the same tune as far as the value of the subject of knowledge management is concerned.

2.3.1 Philosophical Perspective on Knowledge

Knowledge has a broader meaning, both in scope and complexity, as in the field of knowledge management; and much of the contemporary literature on knowledge management avoids a detailed philosophical discussion about the meaning and definition of knowledge (Kandadi, 2006). According to Kandadi, this persistent escapism is the source of widespread confusion in the theory and practice of Knowledge Management. In fact, writers and practitioners of Knowledge Management cannot be blamed for this confusion as the definition

and nature of “knowledge” have remained debatable ever since the study of knowledge emerged as a discipline in philosophy known as Epistemology.

Many western philosophers, including Socrates, Plato, Aristotle, Descartes, Locke, Kant and Russell are noted for their work on providing insights to the meaning and nature of knowledge. However, the initial description of knowledge propounded by Plato still remains a widely accepted theory (Nanaka & Takeuchi, 1995, cited by Kandadi, 2006).

Jashapara (2004) notes that knowledge in a practical sense could be considered as ‘actionable information’, as shown in the hierarchy of data, information and knowledge in Figure 2.1. Better decisions and effective input to dialogue and creativity in organisations are enabled by actionable information. In summary, knowledge enables us to perform tasks more effectively and to make better predictions about the future. This occurs by providing information at the right place, at the right time, and in the appropriate format (Tiwana, 2000 cited in Jashapara, 2004). This explanation of knowledge resonates with the theory of rational imagination couched by Kandadi (2006). According to this theory, knowledge is defined as “concepts, built through rational imagination, which can bring a positive change to the universe of discourse”, (ibid, p.29) .

But as already noted, knowledge has a much more complex connotation and is based on perceptions that can provide a rational justification for it. An individual’s assumption about reality and about what can be known influence this perception. For this reason, the same data or information can be interpreted differently by different individuals based on these perceptions and their original knowledge base.

The most common notion of knowledge in the current KM literature has its roots in the ideas of logical behaviourism based on the writings of Gilbert Ryle and Michael Polanyi (Jashapara, 2004). From this perspective, knowledge exists along a continuum between tacit knowledge (know how) and explicit knowledge (know what). Nonaka (1994) observes that exploring ways of converting the

tacit knowledge base in organisations into explicit knowledge is a major challenge in knowledge management.

Knowledge frameworks and typologies within Knowledge Management

From Kogut and Zander (1992) to Orlikowski (2002), KM writers have propounded different 'knowledge' frameworks that have sought to systematically classify organisational knowledge (Jashapara, 2004). The meaning of knowledge can be quite confusing when the term is used interchangeably with data and information. When distinguished along the continuum of 'knowing how' and 'knowing that' (Polanyi, 1967), several typologies of knowledge emerge as depicted in Table 2.8.

	KNOWING HOW		**CONTINUUM**		**KNOWING THAT**
Kogut & Zander (1992)	Know-how				Information
Nonaka (1994)	Tacit				Explicit
Blackler (1995)	Embrained	Embodied	Encultured	Embedded	Encoded
Spender (1996, 1998)	Individual/Implicit Social/Implicit		Social knowledge		Individual/Explicit Social/Explicit
Brown & Duguid (1998)	Know-how				Know-that
Davenport & Prusak (1998)	Experience	Insight	Values	Data	Information
Cook & Brown (1999)	Knowing (tacit)		Discourse		Knowledge (explicit)
Pfeffer (1999)	Knowing-Doing				Knowledge
Hassard & Kelemen (2002)	Processual – knowing the world		Cultural practices		Being in the world
Newell *et al.* (2002)	Processual Perspective				Structural Perspective
Orlikowski (2002)	Knowing				Knowledge

Table 2.1: Typologies of Knowledge (Source: Jashapara, 2004***)***

Jashapara (2004) gives a succinct discourse on the knowledge typologies in Table 2.1 which is summarised in the paragraphs below.

Based on a similar distinction between declarative and procedural knowledge, Kogut and Zander (1992) categorise knowledge as a difference between know-how and information. Nonaka (1994) develops a hypothesis for the four modes of knowledge conversion based on a distinction between tacit and explicit knowledge from the original work of Polanyi, 1967. The four modes of knowledge conversion are presented as:

- from tacit knowledge to tacit knowledge: process of 'socialisation' through shared experience and interaction;
- from explicit knowledge to explicit knowledge: process of 'combination' through reconfiguring existing knowledge such as sorting, adding, re-categorising and re-contextualising explicit knowledge, can lead to new knowledge;
- from tacit knowledge to explicit knowledge: process of 'externalisation' using metaphors and figurative language;
- from explicit knowledge to tacit knowledge: process of 'internalisation' through the learning process.

A more detailed framework of the five types of knowledge found in organisations is provided by Blackler (1995). Embrained and encoded knowledge correspond with 'knowing how' and the three further forms of knowledge are noted to exist along the continuum of knowledge. The source literature notes that different terms are used for the same concept within the literature, as illustrated in Table 2.3. For example, the action-oriented concept of 'knowing how' (Polanyi 1967) is treated as implicit knowledge (Spender 1996; 1998), experience (Davenport and Prusak 1998); knowing (Cook and Brown 1999, Hassard and Kelemen 2002, Orlikowski 2002); knowing-doing (Pfeffer and Sutton 1999) and a processual perspective (Newell, *et al*. 2002). Similarly, 'knowing that' has been considered as information (Davenport and Prusak 1998; Kogut and Zander 1992), explicit knowledge (Cook and Brown 1999; Spender 1996. 1998); knowledge (Orlikowski 2002; Pfeffer and Sutton 1999) and the structural perspective (Newell, *et al*. 2002).

Hassard and Kelemen's (2002) perspective on knowledge is strikingly different. Based on the works of Lyotard (1984) and Foucault (1980), they view knowledge as 'a set of cultural practices situated in an inextricably linked to the material and social circumstances in which it is produced and consumed'. Jashapara (2004) concludes with a profound observation: Production of knowledge relies on resources cut away from its original creation, and consumption of knowledge occurs through 'being in the world' and social participation in a community of practice.

Competing paradigms in Knowledge Management

'Paradigm wars' in epistemology is not uncommon given the large number of philosophical stand points attending any particular phenomenon. The contention is not only between adherents of different epistemologies, but also between adherents in the same group when further distinctions of epistemology are made by adding prefixes such as radical, post, critical and neo to the philosophical stand points.

Positivism, founded by Auguste Comte (1798-1857), proposes a distinct and independent subject-object relationship as espoused by natural science. Social phenomena are assumed to occur in a closed system; thus, Positivists place the social world and the physical world on the same pedestal. "Positivism insists that all knowledge comes from the 'positive' information of the observable experiences of the natural world. Furthered by Vienna Circle (as association of philosophers gathered around the University of Vienna in 1922, chaired by Moritz Schlick), the positivistic view of epistemology strongly supports conventional empiricism and rejects metaphysical propositions. Positivists argue that logical reasoning and empirical experience are the only sources of knowledge", (Kandadi, 2006).

The dominance of positivist science has led to the creation of two opposing forces in research: Positivists and anti-positivists. Anti-positivists argue that synonymy between the natural world and the social world put forward by

positivists cannot be supported, as the latter is substantially different from the former. In their view, the subject-object proposition that excludes social interactions where subjects could also function as objects is not tenable. Anti-positivists also argue that reality is socially constructed and that knowledge of social phenomena is not as certain as may apply in natural sciences. Thus, anti-positivists claim general statements cannot be justified or falsified and that universal laws and logically coherent theories cannot be deduced from knowledge of social phenomena.

Constructivism "recognises that the 'obvious' facts of social reality may differ among people of differing cultures and even within the same culture. Championed by Peter Berger and Thomas Luckmann in their work *The Social Construction of Reality* (1966), the constructivist perspective argues that our social and organisational surroundings pose no ultimate truth or reality but are determined by the way in which we experience and understand the world we construct in our interaction with others" (Jashapara, 2004). Constructivists have been criticised for their selective view of social reality: some aspects of social reality are viewed as objective and others as socially constructed. Constructivism also ignores the impact of broader social forces (e.g. capitalism) on social reality.

Proponents of a 'postmodern' perspective include Jean-Francois Lyotard, jean Baudrillard and Michael Foucault. In his book *The Postmodern Condition* (1984), Jean-Francois Lyotard underscores the erosion of personal or external history as the bedrock of thought and ideas due to the influence of videos, films, and TV programmes. Baudrillard (1988), advancing the position of Jean-Francois Lyotard submits that people's lives are influenced by the mass media and not history and economic forces, due to the reversal of the Marxist theory where the latter underpins society.

One criticism levelled against postmodernists is that their stance opposes the development of general theories of the social world that help shape phenomena in a positive way. Some critics of postmodernism have argued that its influence is going out of fashion at the start of the twenty-first century.

Realists have identified four misconceptions about knowledge (Sayer, 1992):

- That knowledge is gained purely through contemplation or observation of the world.
- That what we know can be reduced to what we say.
- That knowledge can be safely regarded as a thing or product that can be evaluated independently of any consideration of its production and use in social activity.
- That science can simply be assumed to be the highest form of knowledge, and that, other types, are dispensable and displaceable by science.

From a realist perspective these claims about knowledge are not tenable as each of them is refuted as follows:

First, knowledge can come from participation and interaction, as well as observation. Second, knowledge can also be gained from everyday skills such as feelings of sight, sound and smell. Third, knowledge is continually produced by individuals and not a finished product. Finally, based on these claims, science cannot be regarded as the highest form of knowledge.

Concerned with the 'causal powers' or processes and structures that operate in the social world, realism, unlike positivism, does not view causality as a relationship between discreet events. For a realist, knowing that event 'A' has been followed by event 'B' is not enough; we need to understand the continuous process by which 'A' produced 'B'.

The different philosophical positions attempt to provide an explanation of the nature of knowledge – its generation and application. While they may seem to antagonise one another, each of the stances gives some fundamental truths about knowledge, its creation and use.

2.3.2 Knowledge Management: A Contemporary Management Practice and Discipline

Relatively a young management field, in practice, Knowledge Management (KM) has more to do with ancient civilizations than with some recent innovation in information technology (Bergeron, 2003). Synthesizing the definitions of writers in the subject area, Kandadi (2006) describes Knowledge Management to encompass the process and practice of identifying, creating, acquiring, capturing, aggregating, sharing and using knowledge, wherever it resides, to enhance organisational learning and performance and the facilitation of these processes and practices.

While the use of the term 'knowledge management' has come under some criticism because of the notion of controlling implied in the use of the word 'management' (Sveiby, 2001 and Wilson, 2002), a more conventional use of the term is intended to denote theories, concepts and practices that optimise the use of organisational knowledge. For this reason KM has been defined variously as:

"A method that simplifies the process of sharing, distributing, creating, capturing and understanding of a company's knowledge" (Davenport and Prusak, 1998a)

"...any process or practice of creating, acquiring, capturing, sharing and using knowledge, wherever it resides, to enhance learning and performance in organisations" (Swan *et al.* 1999b)

"...all methods, instruments and tools that in a holistic approach contribute to the promotion of core knowledge processes" (Mertins, *et al*. 2000).

The use of the term 'knowledge management' in this thesis connotes its broader and generally acceptable meaning in the field.

The subject of knowledge management (KM) has evolved over the years with researchers churning out theories and concepts to both define the boundaries of the field and to theorize how knowledge can be managed. Various authors in KM (including Drucker, P. F; Nonaka, I; Davenport, T and Snowden, D) have

different opinions as to the approach to implementing a Knowledge Management Programme, but they nonetheless are unanimous in its application as a tool for unravelling hidden organisational competence. In other words, they recognize the role of knowledge in today's business environment but are of diverse inclinations as to how this knowledge can be applied to bring about the anticipated competitive advantage.

Drucker (1968) introduced and popularized the term "knowledge economy" and noted that businesses will have to convert themselves into organisations of knowledge specialists to remain competitive, maybe, even to survive. Nonaka (1987) puts it succinctly thus, "knowledge is a sure source of lasting competitive advantage in an economy where the only certainty is uncertainty". In the same vein, Quintas (2002) posits that to survive the pace of change resulting from globalisation, technological advancement and innovation, today's organisations need to continually regenerate and develop knowledge. Similarly, Savage (1996) argues that we are in the *Knowledge Age* and wealth is based upon ownership of knowledge and the ability to use that knowledge to create and improve goods and services.

All the above suppositions give credence to the need to manage knowledge in the current volatile market place, whether public or private organisation, not just to survive but to create wealth. This is the thrust of the proposed study. It is time to consciously harness the vast knowledge resources created within the public sector in developing countries into efficiency and value to justify the huge taxpayers' money used to finance their operations.

According to Drucker (2003), knowledge will be the grounds for effective actions by organisations, irrespective of their form or nature. Drucker's predictions are true today as organisations have become information and knowledge seekers with the aim of securing their position in a fast changing global economy. In April 2006, the Work Foundation began the largest investigation into the dynamics of the knowledge economy phenomenon of its first kind in the European Union. The research gathered a solid body of evidence to show that knowledge economy is a universal and global phenomenon, transforming our

economic structures across all sectors – manufacturing, as well as services, high and low technology businesses, public and private, large and small enterprises.

The universality of the knowledge economy phenomenon has compelled society to place a high premium on knowledge acquisition and its utilization to bring positive change to the individual and organisation. It is against this backdrop that academic interest in Knowledge Management has increased tremendously in the recent past leading to burgeoning literature, all in an attempt to identify the critical success factors for implementing a Knowledge Management strategy (Davenport and Prusak, 1998). The approaches vary by author and school.

This varied perspective of Knowledge Management has churned out myriad of Knowledge Management theories, concepts and frameworks. Davenport and Prusak (1998) put forward the theory of Knowledge Market. Lave and Wenger (1991), however, propose in their Communities of Practice (CoPs) concept that individuals acquire knowledge through a social process of interacting in a given domain. Focusing on enterprise knowledge creation, Peter Senge (1990) put forward the theory Learning Organisation. Svieby (2000) propounded the IT-Track Knowledge Management and People-Track Knowledge Management. Snowden (1999) noted the importance of storytelling in Knowledge Management

However, with the discipline maturing, there is growing presence of academic debates within epistemology in both the theory and practice of Knowledge Management (Kandadi, 2006). Furthermore, governmental and non-governmental agencies are becoming interested in the subject area. United Kingdom and Australian Standards Bodies have both produced documents that attempt to define the field, but these have received limited acceptance or awareness.

The aforementioned research by Work Foundation resonates with the propositions of early authorities in the field of Knowledge Management: The universality of the knowledge economy phenomenon. It is therefore noteworthy

that discussion on knowledge management in the public sector is receiving much attention. In England, for instance, the Knowledge Management National Project has been established to examine if an effective Knowledge Management system can be designed to serve the wide range of needs of local authorities. It is for this cause that Bate and Robert (2002) explored how private sector KM concepts and practices might contribute to the further development of public sector quality improvement initiatives in general and to the reform of the National Health Service in particular. Reid and Bardzki (2003) viewed KM as management theory developed for the private sector but conceded that it may be tailored to improve public administration.

Commenting on "Creating a Knowledge Management-focused public service organisation" in his book, Milner (2000, p. 69) states that:

> *To ignore the potential for harnessing and capitalising upon knowledge assets in a public service context is, therefore, to waste opportunities. It is also to neglect input from a key constituency group who may actually be closer to the end-user and their needs and responses to services than the strategists and their supporting data-gathering can ever hope to be.*

The growing significance of Knowledge Management can be attributed to globalisation and the emergence of the knowledge economy. Earlier sections of this chapter have exhaustively discussed the knowledge economy. With knowledge now recognised as the most important asset for competitive advantage, organisations, and in the broader application countries, have sought to optimise their knowledge resources while finding creative ways to tap into external knowledge sources as well. Knowledge management provides the avenue for harnessing latent knowledge.

From the foregoing, when effectively implemented in an organisation, knowledge management practices will result in the following benefits:

- Improved knowledge consciousness of employees and decision making.
- Effective knowledge sharing and re-use; a prerequisite for preventing knowledge loss due to employee turnover.

- Arousal of the learning spirits of employees transforming the establishment into a learning organisation.
- Enhanced employee performance due to the availability and easy access to requisite knowledge and know-how.
- Overall improvement in organisational performance: improved customer service, elimination of redundancies and unnecessary processes.

For a country, knowledge management practices enable knowledge to be increasingly applied in every facet of economic life. This transforms the country into knowledge based where the services sector dominates the economy signifying not only economic growth but improvement in the economic status of citizens. As explained earlier, wealthy countries in the western world are those that have progressively applied knowledge in their production processes.

Since the 1990s, there has been a surge in the number of consulting firms offering in-house knowledge management strategies to boost organisational performance in almost every sector. Major international knowledge management consulting firms include Ernst & Young, Arthur Andersen, Booz-Allen & Hamilton and KPMG. Also on the rise is the feature of knowledge management in the popular press with the most widely read work to date being Ikujiro Nonaka's and Hirotaka Takeuchi's *The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation* (1995).

As a practice, knowledge management has become an accepted part of the overall corporate agenda among large firms with recognised specialist roles such as chief knowledge officer (CKO), director of intellectual capital, knowledge manager, knowledge consultant, knowledge management analyst, and knowledge coordinator (Jashpara, 2004). In 1999, a KPMG survey (KPMG Consulting, 2000) of 423 organisations in the UK, mainland Europe and the US showed a growing interest in and adoption of KM strategies. It is however sad the majority of the adopters are large private distributed organisations. Public sector organisations are poor adopters of knowledge management techniques and/or their efforts at implementing KM initiatives have received little publicity.

The future of knowledge management is bright as more advanced corporate knowledge management systems are developed. “KM and E-learning will converge into knowledge collaboration portals that will efficiently transfer knowledge in an interdisciplinary and cross functional environment. Information systems will evolve into artificial intelligence systems that use intelligent agents to customize and filter relevant information”, Jashapara (2004) postulates. Today, knowledge management is shifting away from bulky KM programmes and structures. Accolades and ‘nice-sounding’ titles for KM leaders and initiatives are de-emphasized while techniques for sharing knowledge and promoting collaboration are stressed. Knowledge management processes and techniques are becoming embedded into routine job roles and functions with dedicated KM role becoming thinner and thinner in organisations.

2.3.3 Knowledge Management Processes

Knowledge management as a process or method of optimising organisational knowledge follow some generic order. It an acclaimed fact that in the field of Knowledge Management that the plan to leverage knowledge awareness and use in organisations should include initiatives and activities that enable knowledge creation or generation, knowledge capture, transfer and storage, knowledge evaluation and knowledge sharing and re-use. The following subsections provide a brief explanation of each of the processes.

2.3.3.1 Knowledge Creation

Organisations are made up of individuals and as individuals in an organisation learn or increase their capacity to take effective action (Kim, 1993), the organisation can be said to be learning; but it is not that simplistic. According to Argyris and Schon (1978, p. 9 cited in Jashapra 2004) “There is something paradoxical here. Organisations are not merely collections of individuals, yet there are no organisations without such collections. Similarly, organisational

learning is not merely individual learning, yet organisations learn through the experience and actions of individuals. What, then, are we to make of organisational learning? What is an organisation that it may learn?"

Knowledge creation is enabled through learning. Huber (1991, cited in Jashapara 2004) posits that organisations acquire new knowledge through the processes of congenital learning, experiential learning, vicarious learning, grafting, and searching and noticing. Learning influenced by the founders of an organisation is termed 'congenital'. Being 'first hand' knowledge, it has the potential to affect how further or new knowledge is regarded by the organisation. When individuals and groups learn from direct experience, it is referred to as experiential learning. Experiential learning can take many forms but ultimately as the organisation learns by doing certain basic performance, indexes are easy determined or estimated and this helps with decision making.

Sometimes due to time and resource constraints, an organisation may borrow competitors' strategies, practices and technologies by way of consulting, arranging professional engagements, including communities of practice, and through publications. Such learning is referred to as vicarious learning and can be very essential for organisations that may not have inherited any relevant knowledge from the founders.

Organisations may also acquire new knowledge by employing staff with the expertise they lack. This is called 'grafting' and this mode of knowledge acquisition may be preferred to growing the skill in-house where time and resource may pose a challenge. In search and noticing, the organisation acquires knowledge through searching for non-routine but relevant information, focused search to address a particular need or monitoring targets and measures, both internally and externally.

It is abundantly clear from the KM literature that an organisation's capacity to innovate depends on its ability to create quality knowledge on a continual basis. Thus, organisations seeking to enhance their competitive advantage through leveraging knowledge must enable and enhance knowledge creation activities

and initiatives. Kandadi (2006) cites a number of strategies that improve knowledge creation in an organisation:

1. Embedding knowledge creation mechanisms in the core business processes. For instance, KM teams can introduce compulsory report writing at the sales closures or project accomplishments.

2. People with good personal interaction, interviewing, and communication capabilities can be allotted special KM roles to interact with professionals and convert the valuable tacit knowledge into explicit knowledge artefacts.

3. Establishing industry groups, transition groups, product groups, etc., with part-time KM roles, can enhance new knowledge creation. Also, communities of practice (CoPs) are a major source of knowledge creation. Because of the diversity of membership they produce rich organisational knowledge.

4. Providing open access to the organisational knowledge resources can directly enhance usage and further knowledge creation.

5. Establishing feedback routes for the employees to comment and rate the accessed knowledge objects, can improve the overall knowledge quality in the organisation.

Section 2.4 discusses a number of theories and frameworks developed for knowledge creation. They include the knowledge creation spiral (Nonaka & Takeuchi, 1995), communities of practice (Wenger *et al*. 2002), the storytelling strategy (Snowden, 1999) and BCPI Matrix (Kandadi, 2006).

2.3.3.2 Knowledge Capture

It must be noted that knowledge creation involves discovering new knowledge while knowledge capture, on the other hand, involves acquiring existing knowledge. Simard (2011) defines knowledge capture as using social technology to find, access and validate existing knowledge. The word ‘knowledge’ is used here to refer to all forms of content: objects, data,

information, knowledge and wisdom. Accordingly, knowledge capture may take the form of:

- Eliciting from individuals
- Harvesting from Communities
- Gathering from Networks
- Exploring Cyberspaces

The social technology includes telephony, video conferencing, e-mail, chat rooms, bulletin boards, online forums, web portal, sharing sites, collaboration sites, expertise locator, blogs, micro blogs and wikis. Knowledge is embedded in the minds of individuals and so it cannot be conscripted, it must be volunteered. In this vein, Simard (2011) identifies the process of elicitation as encompassing:

1. Identification of experts (individuals with requisite knowledge)
2. Engaging the experts (creating the platform to enable knowledge to be volunteered)
3. Making their knowledge explicit (converting their tacit knowledge into knowledge objects)
4. Validating knowledge (assimilating the knowledge into the organisation)

Individual personal knowledge is gained through learning and experience and is influenced by beliefs, perspectives, and values. Individuals may volunteer their knowledge because of compliance (requirement of a paid job), motivation (a reward scheme in place) or engagement (assurance of autonomy, mastery and quality life).

Knowledge can be captured from communities, networks and cyberspaces. Transferring tacit knowledge is more effective through human interaction or socialisation. With knowledge changing at an accelerating rate, it takes a community of people to keep up with new concepts, practices, and technology. Social networks are large numbers of people who share a common interest or passion. Network members bring it into the organisation and communities

validate it. Cyberspaces are masses of unknown content residing in unknown locations. Knowledge is captured when cyber-content is discovered, filtered and validated. Cyberspaces are the only way to keep up with accelerating change in information generation.

It is worth noting that the quality and relevance of knowledge cannot be overemphasized in any attempt to encourage knowledge retention and reuse. Thus, it is the practice of many organisations to have a team of experts that certify knowledge artefacts. Knowledge generated through communities of practice and other forms of collaboration must usually be evaluated and validated before it is disseminated. The following subsection reviews knowledge evaluation.

2.3.3.3 Knowledge Evaluation

The quality of knowledge, as well as its quantity, is essential and organisations ensure that while measures are put in place to encourage employees to create knowledge, measures are equally in place to ensure productive knowledge is captured and assimilated. Several KM tools are available to help with evaluating knowledge:

- Case-based reasoning (CBR): Case-based reasoning applications use old experiences, past problems, their solutions and the reasoning behind them, to understand and solve new problems. In this way, users are able to retrieve existing solutions and insights or adapt them to solve current problems while employing their own skills as the problem changes.
- Online analytical processing (OLAP): According to the OLAP Council, OLAP enables the user "to gain insight into data through fast, consistent, interactive access to a wide variety of possible views of information that has been transformed from raw data to reflect the real dimensionality of the enterprise as understood by the user". OLAP therefore enables multidimensional analysis and manipulation of data.

- Knowledge discovery tools: These are simple, concise and easy-to-use algorithms that model non-random (statistically significant) relationships or patterns and may include one or more ideas from the following models (Gargano and Raggad, 1999): Expert Systems, Decision Trees, Rule Induction, Genetic Algorithms and Genetic Programming, Neural Networks or Backpropagation, Associative Memories, and Clustering techniques.

2.3.3.4 Knowledge Sharing and Re-use

The innovative and creative powers of employees are stimulated when they share their knowledge and re-use existing knowledge. But changing employee attitudes and behaviours towards knowledge sharing (and creation) has been a priority for the KM team in many organisations (Kandadi, 2006). Knowledge sharing has many benefits to an organisation: uniformity of corporate knowledge, creation of new knowledge, improvements in innovation and creativity. Organisations can enhance the knowledge-sharing culture of their employees through encouraging employee learning, instituting a reward scheme for knowledge sharing and promoting communities of practice.

Furthermore, technologies such as internet, intranet, extranet, text-based conferencing, groupware tools, video conferencing and e-learning can be exploited to enhance knowledge sharing and re-use.

2.4 KNOWLEDGE MANAGEMENT THEORIES AND FRAMEWORKS

The knowledge management field is scattered with myriad of theories and frameworks with each providing an explanation of some sort as to how to nurture and harvest organisational knowledge. In fact, each of them attempts to put forward how to practise knowledge management. With the challenges inherent in trying to optimise the use of knowledge for competitive advantage, the disparate avenues suggested by these theories and framework have either provided insight into organisational knowledge, its nature and characteristics, or

methods and processes for cultivating such knowledge. These theories and frameworks, emerging since the 1990s, have sought to determine the organisational factors that influence knowledge creation, sharing and utilisation. Given the interdisciplinary nature of the field, these factors have included organisational culture, people, incentives, leadership, business processes and technology (Davenport & Prusak, 1998; Drucker, 1999; Skyrme, 1999; Mertins, *et al*., 2000; Gupta and Govindarajan, 2000; Harper, 2000).

The interdisciplinary character of knowledge management has resulted in major setbacks with respect to its nature and definition as well as theories and frameworks propounded to drive the field into maturity. For instance, KM definitions contained in the extant literature come from a number of perspectives: human resource (Swan *et al.*, 1999b), information systems (Mertins *et al.*, 2000), strategy (Newell *et al*., 2002), etc. Similarly, some literature in the subject area tends to orient the KM theories and frameworks towards a particular track or an organisational element (Kandadi, 2006). These tracks include, process orientation, people orientation and technology orientation (Lewis, 2002; Natarajan & Shekhar, 2000; Nissen *et al.*, 2000; Remus & Schub, 2003; Sveiby, 2001). As the subject matures, it will be essential that an integrated perspective is developed to justify its interdisciplinary essence. Sections 2.4.1 to 2.4.8 give brief description of some of the important and well-known theories and frameworks in knowledge management, as well as fairly recent ones.

2.4.1 Theory of knowledge creation

Employing the implicit/explicit typology of knowledge (Polanyi, 1967) and incorporating an individual's mental model into the concept of tacit knowledge, Nonaka and Takeuchi (1995) proposed a knowledge spiral. They claimed that it is when one form of knowledge is transformed or converted into another, such as explicit to tacit, and vice versa, that new knowledge is created. Again, they maintained that, the tacit and explicit distinction of knowledge is complementary and not mutually exclusive. Termed differently by other authors, tacit

knowledge relates to an individual's skills and expertise (knowledge) that is embedded in his mind. It is thus personal and context specific, and in most cases difficult to communicate. Explicit knowledge on the other hand is more formalised and systematic and can be transferred and shared among individuals.

It is important to understand the epistemological foundations of Nonaka's theory. Nonaka defined knowledge as 'justified true belief' and so admits individuals develop their knowledge based on their own experiences, and to a large extent, work practices. This notion of knowledge is in line with the practice-based perspective on knowledge and is highly subjective and adequately captured by Nonaka *et al*. (2006), "knowledge is never free from human values and ideas".

In the knowledge creation spiral, there are four modes of knowledge conversion: conversion of tacit knowledge into new forms of tacit knowledge (known as socialisation), the conversion of tacit knowledge into explicit knowledge (known as externalisation), the conversion of explicit knowledge into tacit knowledge (known as internalisation), and the combination of explicit knowledge in different forms (known as combination). Using the first letters of this four knowledge conversion processes, the acronym 'SECI' has evolved to represent this Nonaka and Takeuchi's knowledge creation model (Figure 2.4).

According to the SECI model of knowledge creation, socialisation lies at the centre of the knowledge creation process. From this mode of interaction, knowledge creation then occurs in a spiral, developing and evolving through the other modes of knowledge conversion. With knowledge generated from an individual (his justified true belief), this gets integrated with the knowledge of other individuals.

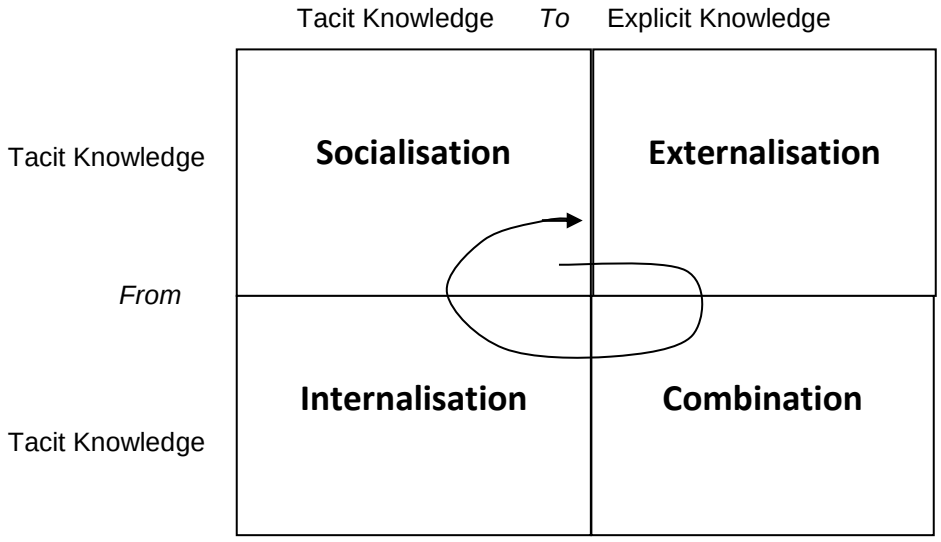


Fig. 2.13: Four modes of knowledge conversion (Nonaka and Takeuchi, 1995)

"Thus knowledge creation involves a process of amplification, whereby individual knowledge is communicated and made available to others, and where it connects to and becomes integrated within wider organisational knowledge systems. Thus, knowledge creation can be conceptualise as 'moving' knowledge up from an individual to a group or organisational level, where it changes from being individual knowledge to being validated group/organisational level knowledge" (Hislop, 2009).

While Nonaka and Takeuchi's theory is widely cited, and highly influential, it has also come under some criticisms, with Gourlay (2006) submitting the most extensive critique (Hislop, 2009). Criticisms carried by Hislop (2009) have been summarised below:

- The empirical evidence supporting the theory is unconvincing: For instance to illustrate the concept of socialisation, Nonaka used how the process of bread making was learned in the development of a domestic bread making machine. According to Gourlay (2006), the anecdotal nature of the example and the lack of detailed evidence make it far from convincing that what has been revealed is an example of socialisation.

- The model has conceptual problems: Gourlay (2006) contests the radically subjective definition of knowledge as well as the epistemological assumption that it is possible to completely convert tacit knowledge into explicit knowledge. He argues that there is an irreducibly tacit element to any and all explicit knowledge, and that it is never possible to make fully explicit any tacit knowledge.

- Its universal applicability is limited: Glisby and Holden (2003) and Weir and Hutchins (2005) argue against the tacit universalitic assumptions the model makes. They contend that all knowledge is culturally embedded, and that the universality of Nonaka's knowledge creation model is limited by the fact that it is embedded within and reflects the values and culture of Japanese business. The empirical evidences adduced by Nonaka, Glisby and Holden demonstrate that the four modes of knowledge conversion reflect the typical cultures of employees and organisational setting which are more prevalent in Japan.

2.4.2 Communities of Practice

'Communities of practice' is a theory that proposes an effective method of enabling knowledge processes: sharing, creation and utilisation. In fact, it has been labelled as an approach to cultivating tacit knowledge that moves beyond organisational artefacts. This assertion is attributed to Lave and Wenger (1991), who coined and described the term. They defined communities of practice (CoPs) as "an activity system that includes individuals who are united in action and in the meaning of action has for them and for a larger collective". Wenger *et al*. (2002) throw more light on this model that has come to be known as the social fabric of knowledge in recent times in the field of knowledge management. They define CoPs thus: groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis".

The 'communities of practice' theory sees the social process of communal learning as the foundation of individual knowledge acquisition. The community is formed through a process called legitimate peripheral participation, where

potential members of individuals from outside move into the core of the group. Members of a community of practice have a stock of common knowledge, a shared identity and common values. These core elements of CoPs coalesce to enable knowledge processes by creating the social conditions that facilitating the communication of tacit knowledge and experiences and building trust. Thus, isolated pockets of expertise across the organisation are connected and validated and this also enables CoPs to be formed with business and trading partners including suppliers and distributors and other organisations, national or international. Figure 2.13 illustrates the mix between the knowledge processes enabled by CoPs and the elements that members in the community share.

Wenger *et al*. (2002), admitting the strategic value of tacit knowledge, assert that enabling formation of CoPs in key areas of an organisation is a practical way to manage knowledge as an asset, in that, such interactions afford the informal learning processes such as storytelling, dialogue, coaching and apprenticeship that enable the sharing of tacit knowledge. It is however a slippery slope when it comes to managing CoPs from organisational level especially given their characteristics; a caution from Saint-Onge and Wallace (2003). They exhibit the following characteristics: set up is informal, self-governed (have own norms and guidelines), self-organised (decide its own purpose and management), productive enquiry (answer questions based on practice), collaborate (synchronous and asynchronous channels), generate knowledge (new knowledge is created), and support members (provide a forum for mutual support). While they want to operate as autonomous entities, resisting supervision and interference, they still require some managerial support to develop, and this paradox is well described by Wenger and Snyder (2000). But, the communities can only fully achieve its aims if they are integrated with the organisation.

The characteristics of CoPs may present some unusual challenges in a public sector organisational setting where control and bureaucracy is rife and competitiveness (as exacted by profit motives) normally absent or suppressed. This thesis will attempt to propose some principles, as part of a comprehensive

KM framework that may be considered when creating CoPs in typical public sector settings as obtains in developing countries. The need for such a context-specific orientation is rooted in the fact that CoPs can be said to underpin levels of organisational innovativeness through supporting and encouraging the knowledge creation processes as illustrated in Figure 2.5.

This section ends with a brief discussion on the misuse of the communities of practice concept. Drawing from Hislop (2009), it is obvious that the concept has been misapplied in a number of contexts due to its popularity and importance.

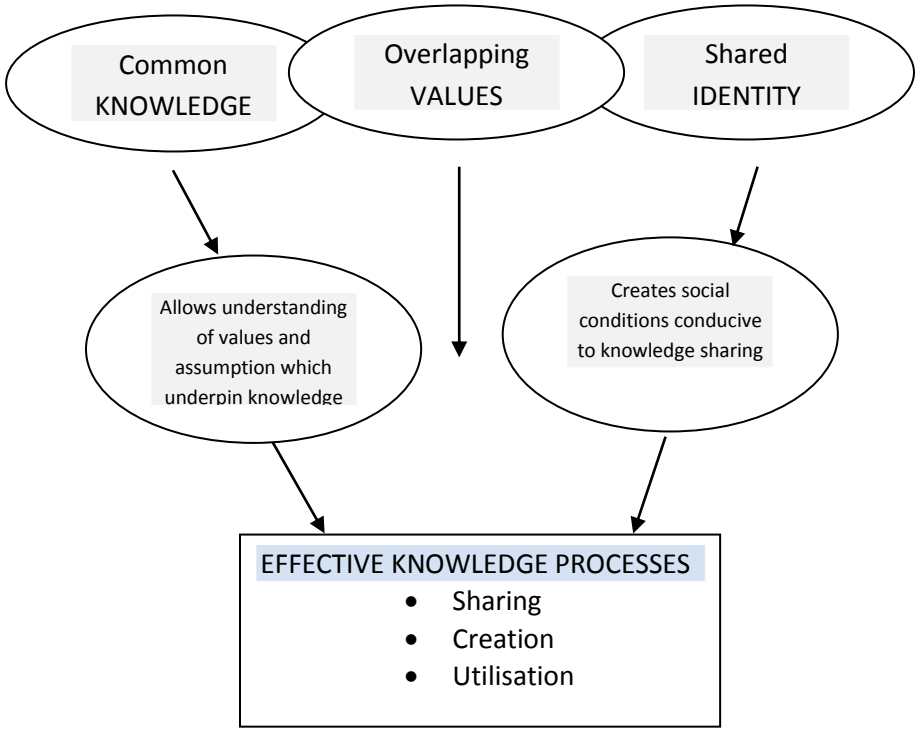


Fig. 2.14: How communities of practice underpin knowledge processes (Hislop, 2009)

Some working groups that referred to themselves as communities of practice have been found not to possess the fundamental characteristics of CoPs such as being self-initiating, ad hoc, organic and non-hierarchical. In a chart presented by Chua (2006) detailing the 'rise and fall' of 'community of practice',

the working group was found to lack all these basic qualities as it was initiated by top management with a 'controlling' element built into it.

It is also possible that some CoPs may become blinkered and inward looking thus exuding negative tendencies. Where the sense of community identity is too strong, this may provide a basis for exclusion, where the knowledge of non-members will be considered irrelevant or unimportant to the community. In the extreme case, members of the community could constitute themselves into a legal entity separated from the respective organisations.

2.4.3 'Tracks' of Knowledge Management

As noted earlier, the interdisciplinary character of the field of knowledge management lends itself to the development of theories that are aligned to one subject area or the other. According to Sveiby (2001), KM can be categorised into two 'tracks': Management of Information and Management of People. Sveiby submitted that, researchers in 'information track' view "knowledge as objects that can be identified and handled in information systems". On the other hand, to researchers in the 'people track' "knowledge consists of ...processes, a complex set of dynamic skills, know-how, etc., that is constantly changing". Barclay and Murray (1997) argue that Svieby's characterisation is on target, but it may not capture the full flavour of the important distinctions in approaches to organisational knowledge management. They have adopted a three-part categorisation:

1. Mechanistic approaches,
2. Cultural/behaviouristic approaches,
3. Systematic approaches

Drawing on the editors' work, mechanistic approaches to KM are characterised by the application of technology and resources to do more of the same better. Under this approach, they assumed that: Better accessibility to information is a key, including enhanced methods of access and reuse of documents (hypertext

linking, databases, full-text search, etc.); Networking technology especially intranet and groupware will be key solutions, and In general, technology and sheer volume of information will make it work.

Assessing the mechanistic approach, Barclay and Murray (2000) acknowledge that such approaches are relatively easy to implement for corporate “political” reasons because the technologies and techniques are familiar and easy to understand. They however warn that unless the knowledge management approach incorporates methods of leveraging cumulative experience, the net result may not be positive, and the impact of implementation may be no more measurable that in traditional paper model.

With substantial roots in process re-engineering and change management, cultural/behaviouristic approaches tend to construe the “knowledge problem” as a management issue. Technology is essential but not the solution. These approaches tend to focus on innovation and creativity than on leveraging existing explicit knowledge. Assumptions of cultural/behaviouristic approaches include the following: Organisational behaviours and cultures need to be changed...dramatically. This is because in information-intensive environments, organisations become dysfunctional relative to business objectives; Organisational behaviours and culture can be changed, but traditional technology and methods of attempting to solve the “knowledge problem” have reached their limits of effectiveness. A “holistic” view is required. Theories of behaviour of large-scale systems are often invoked; It is the processes that matter, not the technology; Nothing happens or changes unless a manager makes it happen.

In their assessment of the cultural/behaviouristic approaches, Barclay and Murray’s assert that “cultural factors affecting organisational change have almost certainly been undervalued, and cultural/behaviouristic implementations have shown some benefits...Positive results achieved by cultural and behaviouristic strategies may be sustainable, measurable, cumulative, or replicable...and employees thoroughly “Dilbertised” by yet another management strategy may roll their eyes. Time will tell”.

Systematic approaches to knowledge management retain the traditional faith in rational analysis of the knowledge problem, according to Barclay and Murray. The analysis conveys the message: the problem can be solved, but new thinking of many kinds is required. Basic assumptions of these approaches are listed as follow: It is sustainable results that matter, not the processes or technology...or your definition of "knowledge"; A resource cannot be managed unless it is modelled, and many aspects of the organisational knowledge can be modelled as an explicit resource; Solutions can be found in a variety of disciplines and technologies; Cultural issues are important, but they too must be evaluated systematically; Knowledge management has an important management component, but it is not an activity or discipline that belongs exclusively to managers.

Assessing the systematic approaches, Barclay and Murray have this to say, "Unrepentant rationalists in the business world are taking a systematic approach to solving the "knowledge problem". Systematic approaches show the most promise for positive cumulative impact, measurability, and sustainability.

2.4.4 Knowledge from Storytelling

David Snowden (1999) discovered that storytelling is an age-old skill can be applied in a new context. He defined the new context as the emerging discipline of Knowledge Management which has arisen in response to the growing understanding that Intellectual Capital is the core asset of organisations and of society itself. He notes that stories can convey complex meanings across culture and language barriers, in a way that linguistic statements cannot. He makes reference to a profound statement made by Tom Stewart of Fortune Magazine when he asserts that organisations are beginning to understand that storytelling is an integral part of their set up, "If stories are powerful, and if stories are going to be told – true and false, official and underground, flattering and humiliating – then leaders and managers need to be part of the process. First, suss out how story-rich the place is. A lack of storytelling, Gardner says,

betokens an environment where management is too controlling. Ask yourself whether the stories – about the founder, about the guy who got canned, about why the boss got her job – are ones that tell people to shut up or step up, that include or exclude. Is there room for mistakes in the company story?" (Stewart, 1998).

Maintaining that the use of stories is a rediscovery of an important natural skill that any attempt to create explicit rules for what is a tacit skill can be dangerous, Snowden however acknowledge that the stories must be purposeful. Storytelling, essentially a knowledge disclosure mechanism combines the anthropological techniques of direct observation of decision-making, the exercise of judgment and problem resolution, to create that 'I know what is going on' moment for the knowledge holder. It creates a largely self-sustaining, low costs means by which knowledge can be captured on the on-going basis – in contrast with a conversational consultancy approach which requires constant measurement and intervention by expensive teams. In contrast to this natural, organic process in which the organisation is managed as a complex ecology, hypothesis based questionnaires represent an attempt to manage the organisation as a complex machine, in which individual components are ultimately definable, knowable and reproducible.

In the storytelling process, the observers identify the decision-making scenarios and chart them together with associated information. There is group validation of knowledge assets. These Knowledge assets are consolidated at the end of story telling.

Snowden observes that in storytelling, the story teller is able to use parables and metaphor to provide meaning and to create a profound understanding of a set of values. By the use of these, complex set of meanings and understanding are conveyed and used consistently across a broad population.

2.4.5 Knowledge Markets

Accepting other theories that assert the personal nature of knowledge origination and application, Davenport and Prusak (1998) further propose the concept of knowledge markets. They argue that organisations can be described as knowledge markets housing knowledge buyers, sellers and brokers. Knowledge buyers refer to employees who require some knowledge or expertise to solve a problem on hand, while knowledge suppliers are those with some strategic insight into pertinent organisational processes and issues. Workers who ensure that there are adequate communication avenues and channels to connect the buyers and the seller are referred to as knowledge brokers. In a typical organisation, some of these players may be outside the organisation. Whether recognised overtly or not, these entities are usually part of every organisation and they work together to propel knowledge processes within its set up.

Where the knowledge and expertise of external consultants are sought as 'knowledge sellers' firms usually make monetary payments in recognition of the service rendered. However, when both knowledge sellers and knowledge buyers belong to the same organisation, monetary exchange for knowledge transfer may be rare. Kandadi (2006) have this summary about Davenport and Prusak's proposition, "Reciprocity, reputation, and altruism serve as the foundations for the internal knowledge transactions. A knowledge worker will take the time and effort to share knowledge if he expects the favour to be returned when it is his turn to seek or buy knowledge. Another motivating factor in the knowledge markets is to gain organisational reputation for sharing knowledge. Some knowledge workers may simply enjoy sharing knowledge and helping others altruistically. However, the effective operation of the knowledge markets requires development of trust in the organisational environment. This can be achieved through the management efforts such as rewarding knowledge sharing activities and eradicating the knowledge hoarding culture in the organisation".

Davenport and Prusak (1998) emphasize three processes which they argue constitute the core of knowledge management and they include knowledge generation, codification and transfer. These processes encompass activities that lead to an increase in the stock of organisational knowledge, ensure proper context on knowledge to enable its seamless access and use, and ultimately enable knowledge reuse and facilitate further creation of new knowledge. They also emphasize the creation of enabling organisational cultural environment to foster these knowledge processes. This places some responsibility on management to build trust and institute appropriate reward systems. Management in carrying out these important tasks, usually creates one or more knowledge roles as suggested by Davenport and Prusak. Such roles include Chief Knowledge Officer (CKO), Knowledge Integrator, Knowledge Librarian and Knowledge Editor.

2.4.6 The Doughnut Model of Knowledge Management

As long as we adopt a good model for managing knowledge, in this case, a doughnut, its practice can give an organisation a decided advantage...This is the assertion of Etienne Wenger (2004) who proposes a framework for managing knowledge. He claims that if by "manage" we mean to care for, grow, steward, make more useful, then the term knowledge management is rather apt. Questioning what form such management should take and who should be doing it, he argues that when it comes to knowledge, management is a doughnut, a community-based knowledge strategy. With the centre of this doughnut (Figure 2.15) being empty, he further argues that knowledge management, is primarily the business of those who actually make the dough – the practitioners.

Wenger endorses the theory of communities of practice in furtherance of his claim that knowledge is best managed by practitioners, the people who use the knowledge in their activities and that knowledge management is a communal activity. He sees communities of practice as social structures that focus on

knowledge and explicitly enable the management of knowledge to be placed in the hands of practitioners. He opines that knowledge management is a strategic activity that starts with strategy and ends with strategy.

From Figure 2.15, the first step in KM is to translate the strategy of the organisation into a set of domains of knowledge: what knowledge do we require to be in business at all and what knowledge do we need to compete effectively? The next step is to find the practitioners who can form a community to take care of the knowledge in their domain. It must be recognised that, the circle of people with whom practitioners need to interact in order to manage their knowledge is often different from the groups of people they work with each day. The third step is to help support practitioners to engage in the development of their practice. Mutual engagement in the details of the practice makes community participation directly relevant to the work of members. Thus, domain, communities, and practice feed the organisation's strategy into performance.
On this score, Wenger claims that company-wide communities make learning available to all concerned. They make sure that the learning from various locations within and beyond the organisation is synthesized and integrated, and then remembered and distributed. Members of communities of practice apply their knowledge in the performance of their jobs and they feed knowledge back into the organisation when 'knowledge results' from the field are tidied up by the community. With this scenario Wenger concludes thus: The management of knowledge assets closes the loop – connecting strategy and performance through a full "knowledge doughnut".

Again, the three elements of communities of practice - domain, communities and practice, in reverse order, prove the structure to describe the second half of this process.

This makes performance feed into strategy. Wenger notes that if management assumes that knowledge is the property of the practitioners and the role of management is to make it possible for practitioners to act as managers of their knowledge by creating the enabling structures – sponsorship, recognition and support – organisations will realise the optimum value of their knowledge assets

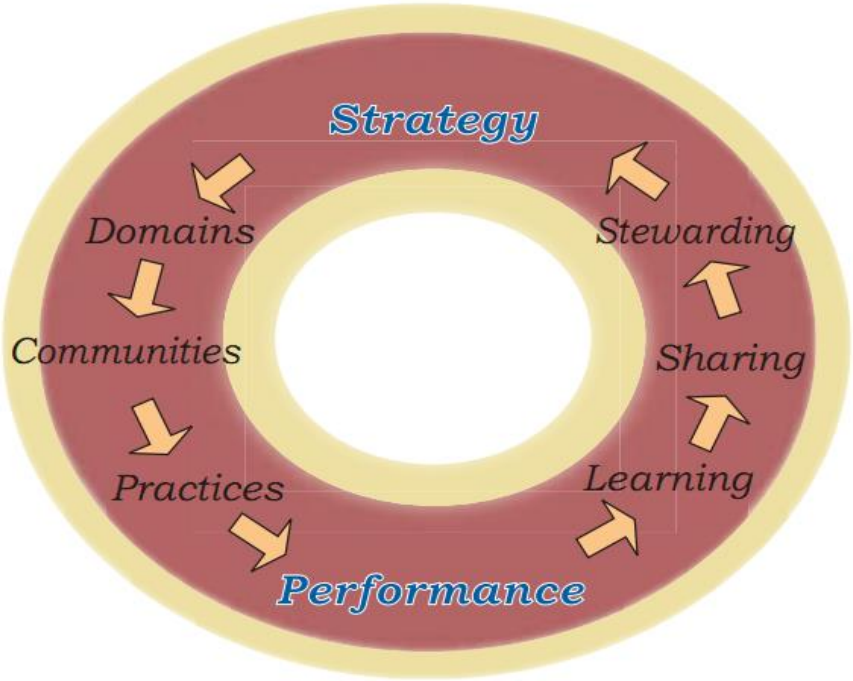


Fig. 2.15: The doughnut model of Knowledge Management (Wenger, 2004)

Summarising, he says: “Executive sponsorship acts as a bridge between the hierarchical structure of the formal organisation and the horizontal structure of communities. Its importance cannot be overemphasized.”

2.4.7 Stankosky, Calabrese and Baldanza’s KM Framework

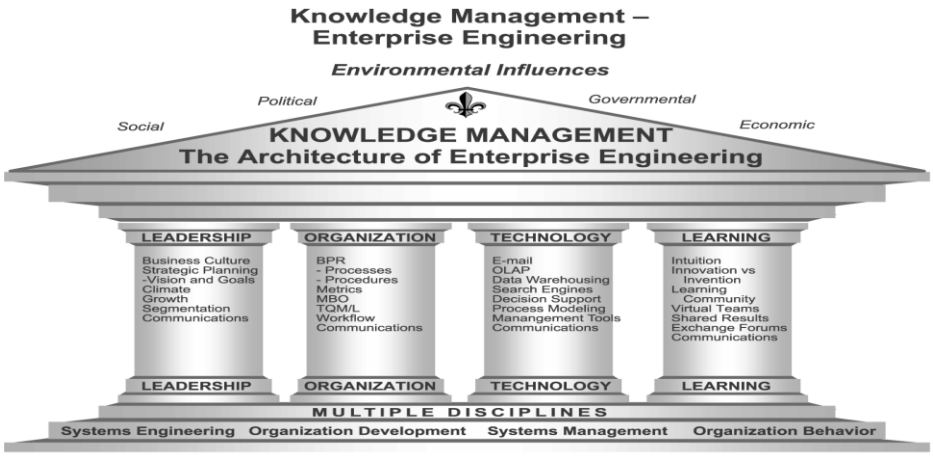
Affirming the multidisciplinary background of the subject area, Stankosky, Calabrese and Baldanza (1999) developed a framework (Figure 2.16) to identify the enabling factors or foundations of knowledge management. The factors are Leadership, Organisation, Technology and Learning. They indicated that knowledge management encompasses a wide range of disciplines: communication, cognitive science, individual and organisational behaviour, finance, psychology, human resource, economics, management, strategic

planning, systems thinking, process reengineering, systems engineering, computer science and library science.

Explaining the four foundations of knowledge management, Stankosky, et al have this to say:

1. Leadership, the first pillar for effective knowledge management. It is responsible for the general management of the organisation which involves strategy formulation and implementation, enabling the creation of cultures that promote communication, knowledge processes and positive business organisational attitudes, and rewards risk taking, learning and knowledge sharing.
2. Organisational structure must provide the platform to personal development and interactions that promote the development of company's knowledge assets. It should foster trust and healthy communication while ensuring the clear demarcation of processes and procedures.
3. Technology enables seamless transfer of data, information and knowledge. If well deployed, it will effectively support knowledge generation, capture, storage and reuse. Some technologies can be implemented into electronic mail, intranet, extranet, data warehousing and group support systems.
4. Learning, both individual and organisational, is very important for sustained knowledge creation. Learning enhances employees' capacity to make effective decisions and guards the growth of the intellectual property of the organisation. Learning can be virtual or communal.

If well-coordinated and optimised, these four elements will indeed safeguard knowledge management initiatives and activities that an organisation decides to implement.



Source: © Stankosky *et al*. (1999)

Fig. 2.16: Stankosky, Calabrese and Baldanza's KM Framework (1999)

2.4.8 The BCPI KM Framework

As the aim of his PhD thesis entitled "Knowledge Management in Distributed Organisations – Developing a Meta-level Framework", Kandadi (2006) developed a KM framework which he called the 'BCPI Matrix'. The acronym BCPI refers to Business Focus, Culture, Process and Infrastructure. These are four core organisational dimensions that he identified as encapsulating the range of activities, processes and strategies required for a workable KM programme in large and distributed organisations.

The Business Focus dimension relates to formulation of the business need, value, strategy and objectives for Knowledge Management. It is the business focus that fosters the motivation for the KM programme. It is placed at the epicentre of the Venn diagram (Figure 2.17) depicting the four dimensions to emphasize its critical role in KM initiatives. In essence the business focus drives the remaining three organisational dimensions, thereby becoming the hub of Knowledge Management as a corporate agenda. The business needs or focus of KM may arise from knowledge dispersion, employee turnover which results in knowledge 'walking out of the door', changing and challenging market environment and the desire to provide efficiency through innovation and virtual working.

The Culture dimension relates to the way of organisational life that enables and motivates employees to create, share and utilise knowledge for the success of the organisation. Factors that promote knowledge culture include good leadership, knowledge accessibility, avenues for employee learning and communities of practice, satisfactory reward system and effective change management practices.

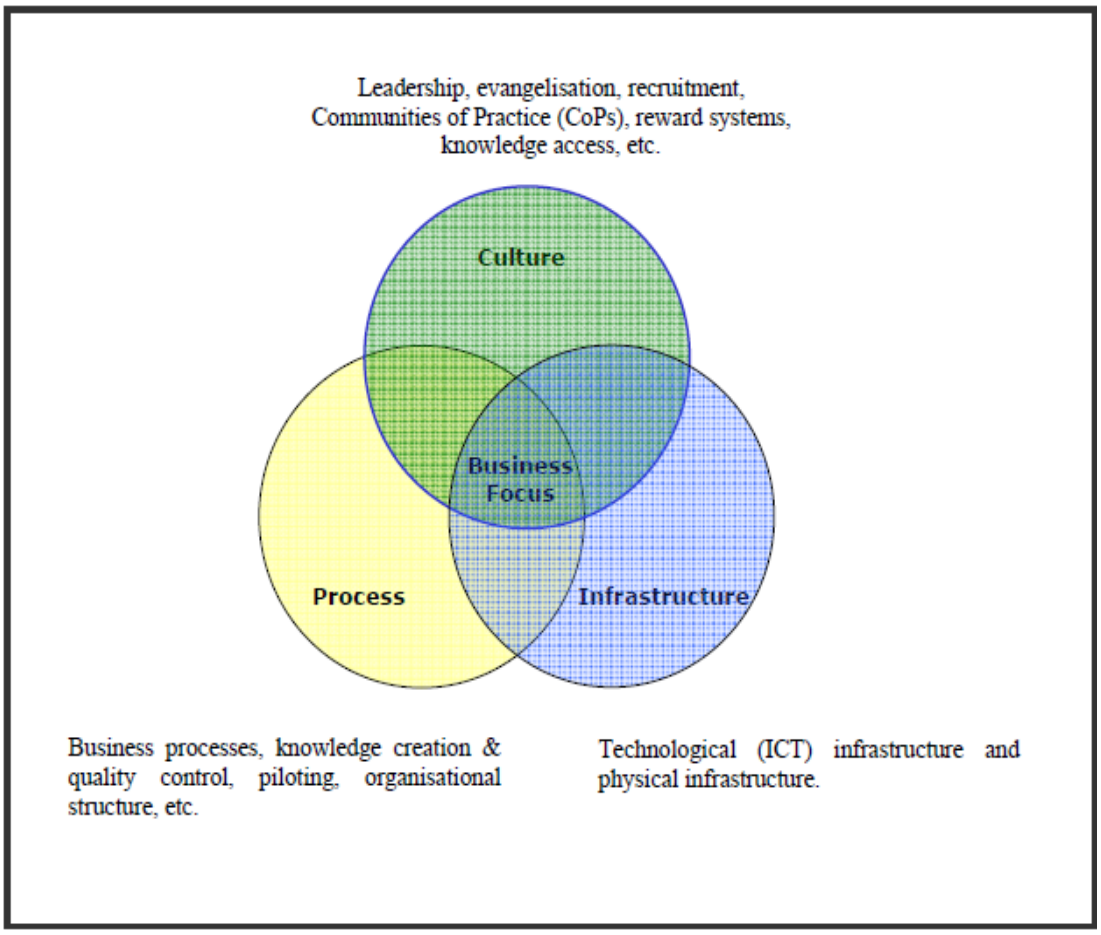


Fig. 2.17: The BCPI Matrix (A KM Framework) (Kandadi, 2006)

2.5 KNOWLEDGE MANAGEMENT IN THE PUBLIC SECTOR

Is Knowledge Management a Private Sector Concept? While it may be tempting to sneer at and brush the question aside, a careful analysis of the various theories and frameworks contained in the current literature on the subject makes it a question worth exploring. The question becomes even more

important when the context is shifted from the public sector of the advanced economies to that of developing countries. The following are observations from the previous sections:

- Knowledge management requires effective leadership.
- Knowledge creation and sharing activities are best served when they are by-and-large left on their own; but they need support.
- Technology is essential in knowledge capture, storage and reuse.
- Executive sponsorship, incentive and support are essential.
- As knowledge increasingly becomes the most strategic 'factor of production', knowledge management aims to augment the intellectual assets of organisations for competitive advantage.

A thoughtful diagnosis of these elements, their implications – financial and organisational – will, no doubt, put the above question in perspective.

2.5.1 The Public Sector versus the Private Sector

The Government-managed public sector is no doubt different from the private sector where individual and group decision-making abound (Hepple, 1982; Fredman and Morris, 1989; Beaumont, 1992; cited in Corby 2003).

According to Corby (2003), the difference does not relate to the bigger strength trade unions wield in the public sector compared to the private sector; nor the absence of profit motive in the public sector; because variants of these differences may prevail in the other sector. Rather, one important difference relates to the fact that the State, as direct or indirect employer, unlike private sector employers, has the power to take executive action that directly affects employment relations.

Another important difference is the fact that public servants are not paid from revenues accrued from their output, but rather from tax receipts. With this arrangement, the government is compelled to consider political and macro-economic factors, rather than commercial ones, when dealing with its

employees (Corby, 2003). Furthermore, the government can justify employment relations on grounds of public interest. Finally, the public sector is laden with more formal reporting rules and procedures relating to recruitment and promotion as it is subject to the constraints of parliament and the electorate.

These distinct features of the public sector have far reaching consequences in terms of its size, aims, functions, and complexity, among others. They also have profound impact in terms of management style and strategic pursuits in the sector. With this setting, the public sector and its administration have come to be associated with bureaucracy and inefficiency and some scholars of public administration wonder whether the sector can replicate some of the management practices developed within the private sector.

Lane (2002) has this to say about the public sector, “Public organizations tend to have goals that are difficult to quantify, meaning that it is difficult to measure outcomes. The purpose of a public organization is to provide something in a ‘good way,’ in a ‘proper way,’ or in an ‘efficient way’. But what is meant by these objectives? There is simply no uniform currency available that may be used to evaluate the objectives. Whereas there is such a goal (profit) and such a measure (money) in private organizations, there is nothing similar in public organizations.” Lane’s observation summarises the views of many.

He continues, “The difference between private and public management is not that one type of organization pursues one and the other several goals, but that there is a difficulty with the objectives of public organization, their lack of quantifiable measures—their qualitative nature. This makes it extremely difficult to evaluate the benefits from the public provision of goods and services other than simply referring to the costs of the activities. Leadership requires other sources of legitimation than a reference to the costs incurred..."

With this characterisation of the public sector, one question that arises is: How difficult will it be to systematically introduce private-sector oriented management

practices and concepts to public sector organisations? Dean Allison, a well-known Canadian politician, appears to have some views:

1. While the need for increased government efficiency is real, the notion that there is any significant body of private management practices and skills that can be transferred directly to the public sector…is wrong.
2. While performance in public management can be improved substantially, an improvement will not come from massive borrowings of private sector skills and understandings.
3. The effort to develop public management as a field of knowledge should start from the problems faced by practising public managers.

This thesis agrees with Dean Allison to some extent. It is feasible that customising and adapting some of the prevailing Knowledge Management practices and frameworks with the problems/challenges faced by public managers in mind will enable the application of KM techniques in the public sector.

2.5.2 Knowledge Management in the Public Sector

Practices, including bureaucracy, business processes, employee attitude and technological factors in the public sector may impede the application of some of the Knowledge Management principles. KM writers like David Skyrme (2003) and Karl Wiig (2002) however suggest that KM is applicable in decision-making, service delivery and public administration. Empirical studies on the effectiveness of KM stra tegy in the public sector are rare. Studies (Berce, 2004) conducted on Slovenian state organisations (Ministries, Government Offices, Local Governments and Municipal Offices) indicated that KM processes were not widely employed. The studies however found that learning and knowledge culture within the public sector were positively influenced by organisational systems of rewards, decentralisation, permanent training, budgetary support, readiness for change and KM networking.

In their research article “Knowledge Management and Communities of Practice in the Private Sector: Lessons for Modernizing the National Health Service in England and Wales”, Bate and Roberts (2002) acknowledge the need to explore the use of KM principles, touted as the private sector techniques, in the public sector. They found that knowledge network such as communities of practice can enhance the effective utilization of the vast knowledge within the National Health Service. Cabinet reviews, conducted by the Cabinet Office, have advocated increasing application of knowledge sharing techniques to the performance of government departments in the face of budgetary cuts to help reduce the national deficit.

Vevien Reid and Barbara Bardzki (2003) viewed Knowledge Management as management theory developed for the private sector in their article “Communication and Culture: Designing a knowledge-enabled Environment to Effect Local Government Reform”. They argued that its impact on public sector organisations was at the teething stage but the ideas, options and opportunities that successful KM offers can be used to enhance service delivery, improve relations with citizens and rationalise the internal processes of public administration. They conclude that when tailored to meet the structure and needs of the public sector, KM will have the potential of giving the sector a more dynamic and knowledge-conscious outlook.

In 2004, the British Standards Institution (BSI) commissioned the Knowledge and Innovation Network (part of Warwick Business School, University of Warwick) and RSM Robson Rhodes LLP to carry out a comprehensive study that led to the publication of a KM practice document entitled: Knowledge Management in the Public Sector: A Guide to Good Practice. Referring to the public sector of advanced economies, the BSI notes that:

> *The understanding and practice of Knowledge Management has been growing rapidly throughout the public sector over recent years. Yet a*

constant comment from existing and nascent public sector KM practitioners has been that, until now, most of the analytical literature concerning Knowledge Management has sought to understand and explain it within a mainly private-sector context. There has not been a single, easy-to-digest national study that objectively and specifically analysed the growth of KM in the public sector and thereby set out the evidence-based public sector context within which Knowledge Management can add value to the work of public servants.

The BSI, through this Guide to Good Practice, has sought to plug this important gap. The study asserts that "public servants and policy-makers do not need KM – they need to solve urgent, complex problems and contribute towards meeting the Government's and wider public sector's key strategic goals, both in terms of policy and in terms of delivery. Further, it claims, "unless Knowledge Management can be seen to be contributing to those key strategic goals, it is unlikely to receive senior management support".

The issue of public sector KM becomes an uncharted course when considered in the context of developing countries. As noted earlier, though the World Bank has organised policy workshops to sensitise developing nations on the importance of transforming themselves into knowledge-driven economies, the challenge has been their ability to create the enabling environment to foster knowledge processes. Unlike the public sector in developing economies, the BSI notes that there is a range of knowledge and learning based activities going on around [United Kingdom's] public sector currently (whether recognised explicitly or not as being 'Knowledge Management') which are delivering real innovation and demonstrating tangible benefits.

Two major challenges for public sector KM found by the BSI's study are:

1. Demonstrating the benefits of Knowledge Management; and therefore,
2. Securing senior management support.

The complex and monolithic nature of the public sector in developing countries as well as the level of political interference, among other organisational deficiencies, make the challenges likely to confront efforts at adopting KM techniques in such an arena very monumental. These challenges notwithstanding, countries like Ghana and other developing countries need every education, encouragement, support, and even 'pampering' to consciously determine how the vast knowledge resources within the public sector can best be harnessed to improve efficiency of public servant and public service delivery.

It is the aim of this research to undertake the first steps towards developing a KM practice framework based on a comparative study of the knowledge management 'needs' of the Ghanaian public sector and the knowledge management best practices of public sector organisations in the advanced economies, particularly, the United Kingdom.

2.6 KNOWLEDGE MANAGEMENT FOR GHANA'S PSOs: A NECESSITY

2.6.1 Managing Knowledge in Ghana's Public Sector Organisations

A large segment of UK's public sector is knowledge-driven as revealed by the study sponsored by the British Standards Institution. It is well on record that almost all the advanced countries have more than fifty per cent of their economies classified as knowledge based. The Governments of United Kingdom, United States, Finland, Australia and Canada, just to mention a few, have devoted resources to promote knowledge creation and sharing programmes and to harness knowledge resources. For instance, the Canadian Institute of Knowledge Management has developed a Common KM Framework for the Government of Canada known as the Frid Framework^{TM} for Enterprise Knowledge Management.

Ghana's quest to become a knowledge society was given a big boost in 2002 when the World Bank organised a policy workshop for selected African countries to help them transition into knowledge-based economies. Building on

the interest stimulated by this workshop, Knowledge for Development (K4D), a developmental agency of the World Bank prepared a knowledge economy assessment of Ghana in late 2003. The assessment noted the modest achievements of the country but marked some areas for improvement.

The Government Ministries, Departments and Agencies (MDAs) have some programmes in place to improve learning and skills. The Head of Civil Service is directly in charge of these training programmes. Financial constraints have limited access to these annual programmes. Internally, these MDAs use float files, intranet (in some cases), and workshops as a means of sharing expertise within their set up. In limited cases also, public servants who get the opportunity to attend overseas courses and conferences are required to attend debriefing sessions as a way of passing on the 'new' insights they might have gained to their colleagues. These measures have not yielded the intended results – promoting sharing of knowledge and to some extent, stemming knowledge walking out of the sector. The lack of motivation and sustained supervision are to be blamed for this failure.

The absence of any policy-backed recommendations or institutionalised framework(s) to harness knowledge is a major setback within Ghana's public administration. In the UK for instance, a Review by the Cabinet Office charged the Home Office, certain departments within the NHS, Department of Energy and Climate Change, among others, to put some techniques and programmes in place to facilitate knowledge sharing as a matter of urgency to improve performance and service delivery.

The Government of Ghana need to explore ways of firmly establishing practices that enhance the exploitation of internal expertise and knowhow within the public sector. This is imperative as the public increasingly demand better and timely services. In the short-to-medium term a government-backed KM initiative supported by development partners would be the sure way to go to prevent loss of knowledge in the public sector through retirement, resignation and death.

2.6.2 The Challenges and the Opportunities

The keenness in knowledge discovery and use within the public and private sectors of the industrialized world cannot be said of developing economies. Financial constraints and poor organisational culture have tended to make nonsense of any attempt to improve public sector performance in developing countries. The World Bank and the IMF have huge piles of records of initiatives and interventions aimed at improving livelihood and public administration in these countries. Thankfully, Ghana has emerged as a beacon of hope in the Sub-Saharan Region of Africa. The moderate-size state has earned the ovation of countries like the United Kingdom and the United States as well as eastern giants like China and Japan due to Ghana's resolve to uphold the rule of law in her governance.

In the area of finance, political governance including general elections and national health insurance scheme, Ghana has become the consulting country to many other developing countries. With these positive developments, coupled with the admission of successive Governments to the fact that Ghana needs to gravitate toward knowledge-based economy to be able to compete favourably in the global market arena, efforts to initiate, complement, or advance Ghana's knowledge economy/society dialogue will likely receive the best of supports. The International Community, including the World Bank, are ready to support initiatives that aim to improve performance and administration in the public sector. It is about time a rigorous but flexible framework that enables measured adoption of knowledge creation and sharing skills within the public sector is given a more intimate consideration.

2.6.3 A Public Sector-Oriented Knowledge Management Framework for Ghana

The private-public sector dichotomy in the acquisition and use of knowledge as a resource is palpable from the setting of public sector organisations Ghanaian. Private and large companies such as KPMG-Ghana, Enterprise Life Assurance

Company (ELAC), Gemini Life Insurance Company and a number of companies in the banking sector have a more determined approach to managing enterprise knowledge. The profit motive, the competitive market arena and the demands of more sophisticated customers in recent times serve as motivating factors for these companies to 'master' their trade. With knowledge fast becoming the most important factor in corporate competitiveness, these private sector companies religiously assess their knowledge resources to always have a fair idea of their strengths and weaknesses and to chart remedial measures as and when required.

Organisations within the public sector must recognise the need to be competitive in the prevailing economic 'meltdown', which has seen even advanced economies like the United Kingdom pursuing austere economic measures to stem a national debt crisis. Budgetary allocations to the Ministries, Departments and Agencies have suffered a downward review over the past few years and this is expected to continue into the foreseeable future. A conscious effort to manage the rich knowledge resources within the Ghanaian public sector may likely be the way to go to ensure sustained and better service delivery within the sector in the face of budgetary cuts.

Though much of the KM concepts and techniques are conveyed in private sector context, the proposed KM framework for organisations in the Ghanaian public sector was oriented to meet the predefined criteria discussed below to ensure a systematic adoption of relevant KM behaviours, processes and tools.

1. ***Scalable***: A host of organisational, cultural, political, financial and technological factors and conditions affect the ease with which knowledge can be created and shared within organisations. Within the public sector these challenges are likely to be in significant proportions due to the orientation of the sector. Thus, the proposed KM framework needed to be comprehensive – incorporating as many of the human, organisational, political and technological factors existing within public administration. This will require an empirical study that spans the sector.

Given the broad stature of the current study, strengths and limitations of individual organisations can be measured and mapped to enable a more reliable assessment of their KM needs. The developed KM practice framework provides a maturity model that makes KM implementation scalable. Thus, organisation-wide or functional unit implementation of KM will take into account the KM readiness of the entity as dictated by organisational structure, cultural values, financial strength, level of digitization, among other considerations.

2. ***Practical***: The development of the proposed KM framework appropriately acknowledged the orientation the public sector. The public sector is definitely different from the private sector as extensively discussed in this study. Given the 'developing-economy' context within which the framework was fashioned, techniques and procedures that may work in UK's public sector organisations may not necessarily work in the Ghanaian setting; hence may require some form of modification.

   Practical considerations also included the kinds and types of technologies that are familiar within the sector, the physical infrastructure within which public servants work, and more importantly, the level of managerial 'interference'. The existence of these practical challenges called for alternatives and to approach issues in ways that have connections to the psyche of public workers in Ghana. The empirical material collected from Ghana fed into the practicality of the framework.

3. ***Flexible and Simple***: The field of Knowledge Management is emergent, as it is relatively new compared to the more common management subjects such as Accounting and Business Management. Awareness of KM as a field of study or practice is limited within the public sector. Similarly, some sections of academia in Ghana have little to with this subject area. To this extent, the proposed KM framework exhibits elements of flexibility and simplicity,

in terms of its constructs and demands. Techniques and technology employed with their attendant activities and guidelines can be said to be ‘user-friendly’.

“The term ‘Knowledge Management’ is sometimes seen as an ‘enemy’ of its title”, a claim by an interviewee from the UK. Honestly, to the uninitiated, the term can best be described as an oxymoron (contradictory) and any associated activity can best be seen as a ‘waste of time’. This perception, however, changes quickly as more light is shed on the tenets of the field. A KM framework with flexible (tolerating organisational and individual idiosyncrasies, accommodating the complexities and challenges of public administration and adaptable to advance the course of Government business in every sector of the economy) and simple (easy to understand, apply and acclimatise) features and delivered with a subtly persuasive approach is more likely to receive acceptance within the Ghanaian public sector. Since the developed framework has these qualities, its acceptable within the Ghanaian community is not in doubt.

The literature review in general and discussions in the current chapter in particular give credence to the research problem; stated as “How to manage knowledge in public sector organisations in Ghana”. A Ghanaian-context public sector broad-based KM framework is needed to address knowledge culture deficiencies in the sector. Furthermore, the literature review gives backing to the research questions derived from a preliminary desk research carried out at the initial stages of this study. The questions attempt to chart the course of the study which precisely seeks to identify organisational elements that can promote knowledge management in the Ghanaian public sector; to determine how these factors can be incorporated into the social fabric of public sector organisations and to propose a framework for knowledge creation, sharing and re-use in the sector.

The research questions are:

Q1. *What major factors and conditions (organisational, political, socio-cultural, economic, technological, etc.) promote Knowledge Management in public sector organisations?*

Q2. *How will the identified factors and conditions promote effective knowledge management in public sector organisations in Ghana?*

Q3. *What initiatives, strategies and measures should public sector organisations in Ghana take in order to introduce, cultivate and assimilate the identified factors and conditions to help manage enterprise knowledge effectively?*

2.7 CHAPTER SUMMARY

The current chapter discussed the global phenomenon of knowledge economy, which requires governments and organisations (in both the private and public sectors) to become knowledge seekers in order to compete favourably in their business arena. Based on a review of available literature, old and nascent, Knowledge Management is explored in terms of its practical definition, theories and frameworks. Though predominantly conveyed in a private sector context, Knowledge Management adoption and application in the public sectors of industrialised and developing countries have also been discussed copiously. The chapter ended with a critical discussion on the need to embrace KM techniques and practices within the Ghanaian public sector; a challenge clearly articulated, defined and accomplished by the study.

3 METHODOLOGY

"*Like water the rising tide of data can be viewed as an abundant, vital and necessary resource. With enough preparation we should be able to tap into this reservoir – and ride the wave – by utilizing new way to channel raw data into meaningful information. That information in turn, can then become the knowledge that leads to wisdom*"

Les Alberthal

3.1 INTRODUCTION

Encompassing the methods and strategies to be followed in a study to attain a set objective, methodology generally enables researchers to understand the processes and procedures involved in those methods and strategies (Collis *et al*, 2003; Silverman, 1994). This chapter presents and discusses the paradigm, philosophical foundation and approach upon which the study is based and the justification for their choice. These elements constitute the phases of the research process and provide a systematic path for addressing the research problem, questions and ultimately, the aim of the research.

It is important that the methodology employed is sound and rigorous to ensure replication where necessary. Such a conscious effort is critical for advancing knowledge in the subject area. Viewed by Saunders *et al* (2003) as an 'onion', this research process begins with the research philosophy to ground the study firmly in epistemology. The rest of the process includes the research approach, strategy, time horizons and, finally, data collection and analysis. According to Saunders *et al*, it is essential that the outer layer be peeled away before coming to the centre of the research onion.

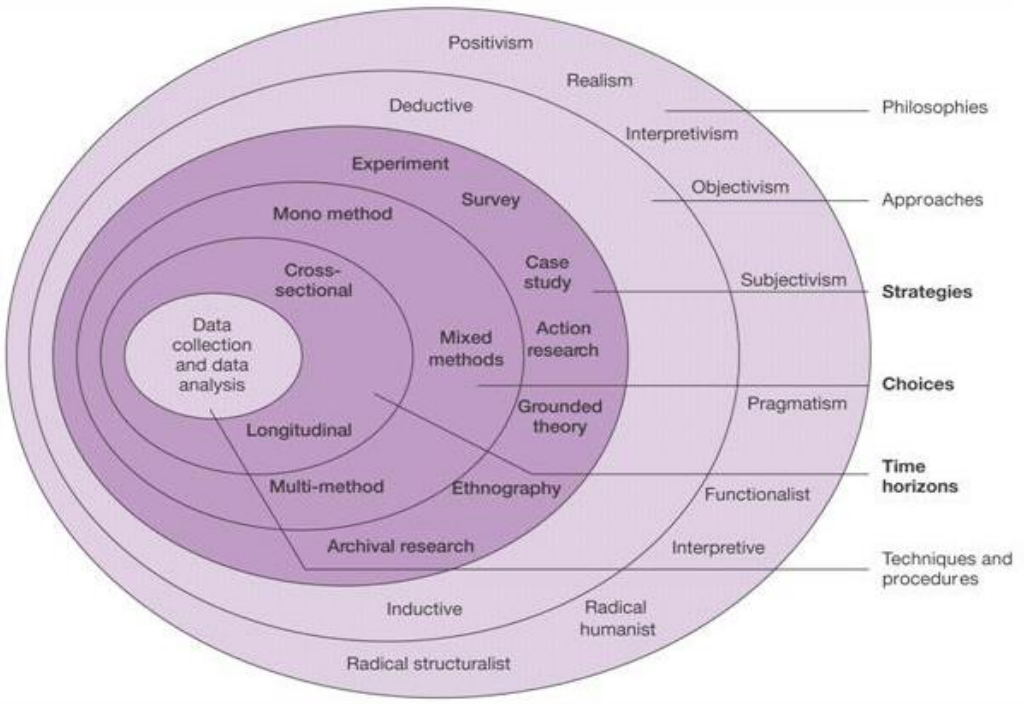


Fig. 3.1: Research Process 'Onion' (Saunders, et al. 2003)

It is worth noting that being interdisciplinary in nature, research in Knowledge Management requires the use of appropriate research methods and strategies for the objectives of the study to be achieved. It is often the case again that KM research results are linked to the underlying data in terms of explicit methods of theory generation and cited evidences (Wastell, 2001). As a developing and quickly maturing discipline, KM needs studies that focus on defining terms and establishing relationships between concepts (Croasdell *et al*. 2003, Guo and Sheffield, 2008).

Though KM researchers generally do not agree on specific research paradigms/philosophies and methodologies, several authors point out that the nature of the problem to be solved and the determined research questions should provide a clue (Denzin and Lincoln, 2000; Yin, 2002; Sliverman, 2005). Miles and Huberman (1984, cited in Kandadi 2006), posits that "knowing what

you want to find leads inexorably to the question of how you will get the information".

The research problem, goal and questions for this study were expressly discussed in the first chapter. In line with Miles and Huberman's assertion, these have been reproduced below in practically logical sequence to indicate a thorough grasp of the direction of the study.

The research problem was summarised as:

"How to manage knowledge in public sector organisations in Ghana".

The existing and nascent KM literature has failed to address this problem as they have sought to discuss and convey its theories, concepts and frameworks in a private sector context. The assertion of the British Standards Institution is here repeated for emphasis:

> "*The understanding and practice of Knowledge Management has been growing rapidly throughout the public sector over recent years. Yet a constant comment from existing and nascent public sector KM practitioners has been that, until now, most of the analytical literature concerning Knowledge Management has sought to understand and explain it within a mainly private-sector context. There has not been a single, easy-to-digest national study that objectively and specifically analysed the growth of KM in the public sector and thereby set out the evidence-based public sector context within which Knowledge Management can add value to the work of public servants"*.

The above comment signalled a regretful omission when viewed against the strides made within UK's public sector (and those of other advanced economies) in the KM arena. With the vast difference between the public sectors of advanced and developing countries, the odds weigh heavy against the latter that scarcely have any KM initiative in place. To contribute to public sector KM discussion, especially in the context of developing countries and to evoke KM dialogue and implementation in Ghana (and other countries through future work), the goal of the research been defined as:

"To s*ystematically develop a KM Practice Framework for managing knowledge in the Ghanaian public sector*".

The goal of this study has a huge bearing on the identified problem, both in terms of advancing the discipline in contributing to research in an 'obscure' corner of its potential practice and advocating its practice in an important constituency. Consequently, the research questions were carefully crafted to help obtain the relevant information and insight to help develop the proposed framework. The research questions are:

Q1. *What major factors and conditions (organisational, political, socio-cultural, economic, technological, etc.) promote Knowledge Management in public sector organisations?*

Q2. *How will the identified factors and conditions promote effective knowledge management in public sector organisations in Ghana?*

Q3. *What initiatives, strategies and measures should public sector organisations in Ghana take in order to introduce, cultivate and assimilate the identified factors and conditions to help manage enterprise knowledge effectively?*

The sections following meticulously traverse the research process to its logical conclusion. What is of note is that various options of each step are analysed and the best option justifiably selected.

3.2 RESEARCH PARADIGM

A paradigm can be defined as a "set of interrelated assumptions about the social world which provides a philosophical and conceptual framework for the organisation of the world (Filstead, 1979). The paradigm selected guides the researcher in philosophical assumptions about the research and in the selection of tools, instruments, participants, and methods used in the study. But it was Kuhn (1962) who gave its contemporary meaning referring to a paradigm as a

"set of practices that define a scientific discipline during a particular period of time". Setting the context of an investigator's study, Kuhn notes paradigms affect research in four different ways:

1. What is to be observed and scrutinised,
2. The questions to be asked in relation to the determined subject,
3. How these questions are to be asked,
4. How the results of scientific investigations should be interpreted.

Kuhn depicted the natural sciences as going through a period of revolution, whereby normal science (science carried out in terms of the prevailing paradigm) is increasingly challenged by anomalies that are inconsistent with the assumptions and established findings in the discipline at that time. When the anomalies are unresolved over time and reach intolerable proportions, they eventually give way to a crisis in the discipline which, in turn, occasions a revolution. The period of revolution comes to an end when a new paradigm surfaces as the ascendant one and a new period or normal sets in. An important feature of paradigms is that they are incommensurable – that is, they are inconsistent with each other because of their divergent assumptions and methods. If a discipline has no recognised paradigm (especially when no one has emerged), such as the social sciences, it is deemed pre-paradigmatic, in that it features competing paradigms.

A challenge with the use of the term is that it is not specific. Masterman (1970) found twenty-one different uses of the term by Kuhn. This downside notwithstanding, its use is widespread in the social sciences (Khazanchi and Munkvold, 2003; Clark and Clegg, 2000 and, Lincoln and Guba, 1985).

Researchers agree that the philosophical anchors of a paradigm are epistemology, ontology and methodology (Denzin and Lincoln, 2000; Kuhn, 1962; Ponteroto, 2005, Hunt, 1994). The positions of the major paradigms with respect to these philosophical anchors define their "world-view" or how reality is perceived. Thus, it is on the basis of their epistemological, ontological and

methodological viewpoints that paradigms are classified to conceptualise and guide research. Researchers generally agree on these foundations but not entirely on the different classifications or paradigmatic schemas. Fitzgerald and Howcroft (1998) classify these research paradigms into two broad categories: positivist and interpretivist. Guba and Lincoln (1994), on the other hand, group them into four: positivism, post-positivism, critical theory and constructivism. Other scientists, however, propose positivist and phenomenological as the two segments of paradigm (Burrell and Morgan, 1979; Easterby-Smith *et al.* 1991). Synthesizing these groupings, a number of researchers (including Chua, 1986; Denzin and Lincoln, 2000; Klien and Myers, 2001; Myers, 1997; Orlikowski and Baroudi, 1991) group paradigms into three: positivist, critical theory and interpretivist. A brief review of the existing paradigms will be presented at the end of this section.

The paragraphs below give a brief explanation of the philosophical foundations of these paradigms. A thorough appreciation of these foundations – epistemology, ontology and methodology – is required to fully understand the positions of paradigmatic schemas. In particular, the ontological and epistemological questions are central to the understanding of the research problem. Ponterotto (2005) adds two other philosophical foundations: *Axiology* and *Rhetoric Structure.*

Epistemology

According to the Stanford Encyclopaedia of Philosophy (SEP), defined narrowly, “epistemology is the study of knowledge and justified belief. As the study of knowledge, epistemology is concerned with the following questions: What are the necessary and sufficient conditions of knowledge? What are its sources? What is its structure, and what are its limits? As the study of justified belief, epistemology aims to answer questions such as: How we are to understand the concept of justification? What makes justified beliefs justified? Is justification internal or external to one's own mind? Understood more broadly,

epistemology is about issues having to do with the creation and dissemination of knowledge in particular areas of inquiry".

This is an elaborate definition of epistemology. In a nutshell, epistemology provides a set of criteria for evaluating knowledge claims and establishing whether such claims are warranted. It explains the nature of knowledge, what is accepted as knowledge and the relationship between the knower and the known (Punch, 1998). A particularly central issue in this context is the question of whether the social world can and should be studied according to the same principles, procedures, and ethos as the natural sciences (Bryman, 2004).

Ontology

Ontology is the study of the nature of being and existence. Punch (1998) defines ontology as the concept explaining reality and why everything exists in the world, including the nature and form of reality. Thus, ontology tries to find out the existence of 'objects' and their categories. In this sense, ontological assumptions of a study (as borne or dictated by a particular paradigmatic schema), are to give an idea about the nature of reality being inquired. According to Bryman (2004), the central point of orientation here is the question of whether social entities can and should be considered objective entities that have a reality external to social actors, or whether they can and should be considered social constructions built up from the perceptions and actions of social actors.

Methodology

The epistemological and ontological perspectives determine the basis for research methodology. It is however possible to use different methodologies for a particular epistemological and ontological perspective. Methodology, unlike method, defines the procedure by which an inquiry is conducted. It

encompasses the methods and strategies employed to guide the design of a study.

Axiology and Rhetoric Structure

Axiology concerns the role of researcher values in the scientific process (Ponterotto, 2005). The ontological perspective of a research determines whether the investigator's values and personal judgement are critical to the research. On the other hand, rhetoric refers to the language used to present the procedures and results of research to one's audience (Ponterotto, 2005). Rhetoric structure depends on the researcher's epistemological and axiological stance.

The subsections following critically examine four paradigms to determine their appropriateness for the current research. They are positivism, interpretivism, critical theory and pragmatism.

3.2.1 Positivism

Positivism advocates the application of the methods of the natural sciences to the study of social reality. Thus, knowledge is gained through the use of experimentation and quantitative methods. Positivism claims the existence of objective reality (i.e. reality determined by the senses – what can be seen, smelt, touched, etc.), which can be known through measurable properties, which are independent of the observer (Myers, 1997). Bryman (2004) and Gray (2009) provide a summary of the claims of positivism:

1. Only phenomena and hence knowledge confirmed by the senses can genuinely confirmed as knowledge. This is the principle of phenomenalism.
2. The purpose of theory is to develop general hypothesis that can be tested and thereby allow explanations of laws to be assessed. This is the principle of deductivism.

3. Knowledge is arrived at through the gathering of facts that provide the basis for laws. In other words, inquiry should be based upon scientific observation as opposed to philosophical speculation. This is the principle of inductivism.

4. Science must (and presumably can) be conducted in a way that is value free (i.e. objective). In other words, the natural and human sciences share common logical and methodological principles, dealing with facts and not with values.

5. There is a clear distinction between scientific statement and normative statement and a belief that the former is the true domain of the scientist. This last principle is implied by the first because the truth or otherwise of normative statements cannot be confirmed by the senses.

Summarising the philosophical foundations therefore, ontologically, positivism contends that there is only one true reality that is apprehendable, identifiable and measurable; a position known as naïve realism. Epistemologically, positivism emphasises dualism (independent relationship between the researcher and the participant) and objectivism (absence of bias in the conduct of the inquiry by following a set of rigorous, standard procedures). Axiologically, positivism maintains that there is no place for values in the research process. Due to the epistemological and axiological stance, rhetoric is precise and "scientific" in positivism. Finally, positivism employs methods and procedures that enable variables to be studied under controlled conditions and where the emotions and values (expectant stance on the problem) of the researcher become irrelevant.

Denscombe (2002) attributed the growth of positivism to its feat in explaining how the world works through the advancement of natural sciences. Also the work of Auguste Comte, 'Societe Positiviste' and further coining the terms 'positive science' and 'positive philosophy' spurred positivism to a greater height, according to Crotty (1998). This success in the natural sciences led to the adoption of positivism into the social sciences, especially in the management field (Capra, 2002). But, the subjective disposition of humans makes it difficult for Knowledge Management as a discipline (those in business

and management) to adopt the positivism paradigm (Burrell and Morgan, 1979). Indeed, the summary of the philosophical underpinnings of positivism makes it favour studies that attempt to test a theory than to develop one. It is on this basis that the 'grounded theory' was proposed by Glasser and Strauss (1967); they argued that a theory is 'grounded' in data, dismissing the theory-led deductive research of the natural sciences.

The case against positivism is also made in terms of its apparent disregard for socio-cultural perspectives. The study of socio-cultural phenomena requires, to some extent, 'immersion' of the investigator into the setting of the participants (Banks, 1998; Schein, 1999). This straight away rules out any independent relations between the researcher and the subjects and 'masking' of the former's values and emotions. Therefore, positivism has a limited application in Knowledge Management, if any. It is against this backdrop also that the positivist's approach is not adopted for this study. An attempt to under the cultural disposition of public sector workers and their peculiar work conditions entails much more than mere data collection. Adequately grasping a sense of their lived experiences will be an invaluable contribution to the study in defining and directing a context for its design.

The social nature of the discipline calls for other paradigms that address the deficiencies enumerated above. Phenomenology, Constructivism and Interpretivism are suggested alternatives (Rollinger, 1999; Denzin and Lincoln, 2000)

3.2.2 Interpretivism

The term subsumes the views of writers who have been critical of the application of the scientific model to the study of the social world and who have been influenced by different intellectual traditions. In essence, as a research paradigm, interpretivism, a major anti-positivist stance, looks for 'culturally derived and historically situated interpretations of the social life-world' (Crotty, 1998). It is founded upon the view that a strategy is required that respects the

differences between people and the objects of the natural sciences and therefore requires the social scientist to grasp the subjective meaning of social action. Its intellectual heritage includes: Weber's notion of Verstehen; the hermeneutic-phenomenological tradition, and symbolic interactionism (Bryman, 2004).

Interpretivism proposes that reality does not exist outside the observer, but it is 'constructed' by the social milieu (experience, social background, and other factors) of the observer. Based on this notion, interpretivism is also referred to as constructivism (Denzin and Lincoln, 2000). In a sense, interpretivism claims a relativist position that assumes multiple, apprehendable and equally valid realities (Schwandt, 1994). The hermeneutical approach underlying interpretivism maintains that meaning is hidden and must be brought to the surface through deep reflection (Schwandt, 2000; Sciarra, 1999); and the interactive researcher-participant dialogue can stimulate this reflection. Thus, the interaction between the investigator and the object of investigation is central to and a distinguishing characteristic of interpretivism. It is only through this interaction that deeper meaning can be uncovered (Ponterotto, 2005). In other words, the investigator and the subject jointly create (co-construct) findings from their interactive dialogue and interpretation.

Advocates of interpretivism (Glasser and Strauss, 1967; Mittman, 2001; Denzin and Lincoln, 2000; Myers, 1997), note that use of qualitative orientation or approaches is appropriate for theory development and research in the management sciences. Methodologies such as ethnography, exploratory analysis, field experiments have been encouraged.

The philosophical orientation of interpretivism is being reviewed with the view to determining its application to the current research. Ontologically, interpretivism claims the existence of multiple, constructed realities, rather than a single true reality. Reality, according to interpretivist position, is subjective and influenced by the context of the situation, namely the individual's experience and perceptions, the social environment, and the interaction between the individual and the researcher (Ponterotto, 2005). The relationship between researcher

and the participant in an interpretivist setting is one that maintains that reality is socially constructed and, therefore, the dynamic interaction between the researcher and participant is vital in capturing and describing the "lived experience" (*Erlebnis*) of the participant. Thus, epistemologically, interpretivism argues that knowledge is relative to the observer and that his or her actions have consequences on his or her final outcome. Qualitative methods are employed as they facilitate the understanding of complex, interrelated and changing phenomena. The value and lived experience of the researcher cannot be divorced from the research process. The interpretivist should acknowledge, describe and "bracket" his or her values, but not eliminate them. Given the subjective and interactive nature of interpretivist research, the rhetoric employed is often personalised. The researcher's own experience, expectations, biases, and values are detailed comprehensively and the impact of the research process on the emotional and intellectual life of the participants is reflected upon and discussed openly (Ponterotto, 2005).

The "social orientation" of interpretivism makes it an option for the current research. Its philosophical foundations coalesce to provide an appropriate platform to assess knowledge culture within organisations and to uncover cultural and organisational opportunities and challenges that must be harnessed and addressed, respectively, to sustain any attempt to implement KM techniques.

The research problem and the attendant questions seek to under the social orientation within the Ghanaian public sector. Employees' perception, understanding and general attitude toward discarded and existing practices that might have at least a remote objective of safeguarding knowledge cannot be underestimated as far as this study is concerned. Internal and external, and remote and immediate factors that directly or indirectly affect employees have a corresponding impact on their commitment to the cause of their organisations. This will most certainly influence their readiness to collaborate and to share skills. This study will attempt to delve into this social dynamics through both in-depth-individual-interviews and direct observation.

3.2.3 Critical Theory

The aim of critical theory is to disrupt the status quo (Kincheloe and McLaren, 1994, 2000). Crotty (1998) who argues that present social critics aim their criticism at the social order itself supports this. Their 'modus operandi' is spurred by groupings of people whose privileged positions make them excellent tools for social change. Thus, critical ideological paradigm, seeking to emancipate and transform, puts the researcher's proactive values at the purpose and methods of research. Critical theory is thought to originate from the Institute of Social Research at the University of Frankfurt in the 1920s (Creswell, 1998) and the pioneering scholars included Max Horkheimer, Theodor Adorno, and Herbert Marcuse. Influenced by the German philosophical tradition of Marx, Kant, Hegel and Weber, the pioneering scholars were of the view that injustice and subjugation shaped the lived world (Kincheloe and McLaren, 2000).

O'Donnell (1999) defines critical theory as a self-evaluation that is aimed at emancipation from exploitation by a highly commercial world. This is based on the claim by critical theorists that the ability of people to change their social and economic status is constrained by social, cultural and political domination. Thus, critical theorists use Foucaultian analysis, Marxism and Feminism to explain their findings (Merino, 1998).

"As critical theory aims to remedy logical contradictions in existing theories, its usage in the new theory development in an emerging discipline, such as knowledge management, is limited. Critical theory challenges the questionable assumptions about organisations and takes a dialectic approach. But the scarcity of empirical and prerogative assumptions in the current KM literature implies the incompatibility of critical theory to further resolve the research problem [of a KM research]", Kandadi (2006).

Researchers are cautioned to interpret critical theory broadly as there is no single critical theory (Kincheloe and McLaren, 2000). The Frankfurt theorists themselves did not claim to have developed a unified theory, according to

Kincheloe and McLaren who indicate that there are many critical schools of thought. They provide some transcendent aspects of critical ideology having noted that there are commonalities among the variants of critical theory. First, a criticalist is a researcher who uses his or her work as a form of social or cultural criticism. Second, criticalist researchers in all disciplines are guided by certain basic assumptions, including:

a. They are fundamentally mediated by power relations that are socially and historically constituted;

b. Facts can never be isolated from the domain of values or removed from some form of ideological inscription;

c. Language is central to the formation of subjectivity;

d. Certain groups in society are privileged over others;

e. Oppression has many faces and that focusing on one at the expense of others often elides the interconnections among them;

f. Mainstream research practices are generally implicated in the reproduction of systems of class, race and gender oppression.

The philosophical foundations of critical theory are summarised next. Critical research acknowledges a reality informed by ethnic, cultural, gender, social and political values. Usually, the focus is on realities that are socially and historically constituted and mediated by power relations. Like the interpretivist, the criticalist operates from an epistemological standpoint of transactional and subjective relations between the researcher and the participant. The relationship is also dialectic in nature, with the goal of inciting transformation in the participants that leads to group empowerment and emancipation from dominion (Ponterotto, 2005). Critical theorists employ methods that are able to capture the lived experience of participants. The standardized methodology of positivist is unable to capture, and possibly distort, the social milieu of human beings.

The current research is not intended to emancipate the power relations between unions and management. Despite some agreeable contexts of the

philosophical foundations of critical theory, its application to the current research will derail the goal of the study. Courting managerial support is fundamental to the successful implementation of any knowledge management initiative. Far from meddling in the power relations between employees and management in the public sector, the study aims to create a common platform for a concerted employee-management effort to systematically manage enterprise knowledge.

3.2.4 Other paradigms: Postpositivism and Pragmatism

Two other paradigmatic schemas are postpositivism and pragmatism. A cursory evaluation of their fundamental beliefs can help to determine their suitability for the current research which intends to critically evaluate knowledge conditions in organisations and to development a comprehensive KM practice framework for institutional knowledge management initiatives. The works of Ponterotto (2005), Saunder *et al*. (2007), Guba and Lincoln (2005), and Hallebone & Priest (2009) are here utilised to evaluate the two paradigmatic schemas.

Postpositivism, a variant of positivism, also accepts true reality with some modification. Postpositivists claim reality can only be apprehended and measured imperfectly, a position known as critical realism (Ponterotto, 2005). This means that, reality is perceived as existing independently of human thoughts but is interpreted through social conditions. Epistemologically, postpositivists advocate a modified dualism/objectivism. This position acknowledges that the researcher may have some influence on that being researched, but objectivity and researcher-subject independence remain important guidelines for the research process. For the postpositivist, only phenomena that can be observed provide credible data, facts. Thus, the observable constitutes acceptable knowledge.

The values of the researcher influence the investigation. Thus, the research is value laden, in that the researcher is biased by worldviews, cultural experiences

and upbringing. However, in research, strict scientific methods and procedures are employed and variables carefully controlled or manipulated, making the researcher's emotions and expectant stance on the problem under study irrelevant.

Postpositivist paradigm is not a fit for the current study, as the extent of departure from positivist perspective has no material significance as far as its goal is concerned. In other words, Insomuch as the study would predominantly be guided by the individual and collective experiences of the participants, the epistemological standpoints of objectivity and researcher-subject independence espoused by advocates of postpositivism become alien asymptotic in that context.

Pragmatism is a paradigmatic schema, which combines the philosophical foundations of positivism and interpretivism. As such, it has multiple perspectives on ontology, epistemology and methodology. The use of aspects of positivism makes it deficient as a paradigm for this thesis.

3.2.5 Adopted Paradigm: Interpretivist Perspective

The subsections above have critically analysed contemporary paradigms in the social sciences. Their ontological, epistemological and methodological foundations have been examined. Also axiology and rhetoric structure, which define the role of researcher values and style of communicating research findings, have been evaluated for each of the paradigms. Furthermore, the appropriateness of the application of each of the paradigm in a Knowledge Management research was evaluated.

Given its position on all the aspects of the research process, the interpretivist paradigm was adopted for this study. Guiding the different phases of study, the interpretivist outlook enabled the in-depth study intended by the thesis to be accomplished.

3.3 RESEARCH METHOD

The interpretivist paradigm was adopted as the best philosophical context to drive the intended investigation after a thorough evaluation of competing schemas. Based on the nature of reality and researcher-participant relationship under interpretivist study, an appropriate research approach and strategy were determined to advance the research. The selected philosophical stance drew the research towards a qualitative study with almost predetermined implications for the choice of research strategy and the research design as well. The literature suggests a number of qualitative methodologies that are aligned with the interpretivist stance. These include: Action research, Ethnography, Life history; Clinical models, Case study and Grounded theory (Rapoport 1790; Clark 1972; Lewis 1985; Glasser and Strauss 1967; Stake 2000; Yin 2002; Mc Whinney 1989; Strauss and Corbin 1998).

While the research approach connects the research to specific methods of collecting and analysing data, the methodologies/strategies move the study from the philosophical realm to the empirical world. In selecting the right methodology, it is necessary to consider its appropriateness to gather the right data from the field that are needed to address the determined research questions. In line with studies in the subject area, suitable methodologies include action research, case study, ethnography and grounded theory (Creswell, 1998; Hussey and Hussey, 1997; Myers, 1997; Silverman 2005). These four methodologies were evaluated to determine the one most suited to the current study.

3.3.1 Research Approach: Qualitative Study

Research methods, essentially, are to give the researcher the needed mechanism to carry out effective investigation in his/her field of study. A research method largely defines the design of the problem under investigation (Saunders *et al*., 2009; Khotari, 2006; Kumar, 2008). Whatever the preferred research method, there are three distinct approaches to addressing any

research problem: Qualitative, Quantitative, and Mixed methods (Bryman, 2006). This means that based on the approach, a research study can be either qualitative, quantitative or a mixture in nature. These research approaches and their applications have their roots in one research philosophy or the other. In other words, the research philosophy, which defines the assumptions constructed about the phenomena of interest, also determines the ontological, epistemological and methodological scope of the study (Guba and Lincoln, 1994; Ritchie and Lewis, 2003). Thus, according to Bryman (1984), much of the research literature considers, to some extent, the research philosophy to determine, by and large, which approach the researcher should adopt. It is therefore fairly straightforward to determine the likely approach of a study from the underlying philosophy.

There are fundamental differences between quantitative and qualitative methods. Typically, qualitative data involves words and quantitative data involves numbers. Qualitative research is inductive and quantitative research is deductive (Saunders *et al*., 2009). Again, in qualitative research, a hypothesis is not needed to begin research. However, all quantitative research requires a hypothesis before research can begin. These differences do not make one more scientific than the other. This thesis adopts the qualitative research strategy as the most suitable in answering the research questions. The reasons for the choice of a qualitative study and the deficiencies of the other approaches have been explained in the following subsections.

3.3.1.1 Qualitative Research

From the foregoing, qualitative research is inductive, meaning theory and concepts emerge from data. Thus with an inductive stance, theory is the outcome of research (Bryman, 2004). In other words, the process of induction involves drawing generalisable inferences out of observations, which is a scientific approach (Saunders *et al*. 1997; Morgan and Smircich, 1980; Malterud, 2001). The strength of qualitative approach lies in its flexibility, adaptability and the ability to provide an avenue for researcher-participant

interaction. It is also able to provide rich and complex textual description of experiences of research participants.

A weakness of the qualitative approach is that participant responses are not easily comparable. Usually, data collected are analysed as distinct categories due to the fact that they can only be conceptualized (Tesch, 1990). Based on these strength and weakness, research strategies such as case studies, ethnography and phenomenology are widely employed in qualitative studies.

This thesis adopted the qualitative research approach as it provided avenue for in-depth investigation and the possibility of obtaining rich insights into the organisations studied.

3.3.1.2 Quantitative Research

Quantitative research is usually deductive. The researcher, on the basis of what is known about in a particular domain and theoretical considerations in relation to that domain, deduces a hypothesis (or hypotheses) that must then be subjected to empirical scrutiny (Bryman, 2004). The strength of quantitative research lies in its rigour to warrant outcomes to be compared. For example, research strategies such as surveys provide concrete outcome (e.g. employment figures) that can be manipulated and compared. A weakness of the survey lies in its failure to provide comprehensive textual description of outcomes.

3.3.1.3 Mixed Methods Research

Research studies that have both inductive and deductive components employ both qualitative and quantitative techniques in the same research. Sometimes, when both approaches are combined in a single research, it provides a holistic view of a phenomenon and helps to address the weakness of either approach. A weakness of the mixed research is that it can be very complicated (Saunders *et al*. 2009; Johnson and Onwuegbuzie, 2004).

3.3.2 Research strategy: Multiple Case Studies Method

Saunders *et al* (2007) provide a list of seven research strategies. They include ethnography, action research, case study, grounded theory, surveys, experiment, and archival research. The first four are classified as qualitative and the rest quantitative. As stated earlier and based on the research approach adopted for this research, only the qualitative strategies will be evaluated and the most suitable one selected for the research design.

3.3.2.1 Ethnography

Saunders *et al*. (2009) and LeCompte & Schensul (1999) describe ethnography as a research setting where the researcher investigates a phenomenon by being a participant observer within the context in which it occurs. The researcher is immersed in the social setting of the participants for an extended period of time and seeks to place the phenomenon studied in its social and cultural context (Lewis, 1985). Ethnography provides deep insight and understanding of a social phenomenon from the lived experience of individuals who are part of its existence. Characterised as a process and a product of social study, ethnography is time consuming and techniques employed may be oversimplified, detracting from a comprehensive study. However, the ethnographer gains in-depth knowledge about a particular context or situation that is studied. The issues of trust, access and meeting some stated objectives are some limitations of the research approach.

The length of time required in an ethnographic study and the possibility of chancing upon sensitive material made this strategy unsuitable for the study. The time factor means that such a study should not be under strictly timetabled academic calendar and the difficulty of gaining access to an organisation for a long time for confidential reasons, makes this type of research one that requires a lot of diplomacy before it is begun.

3.3.2.2 Action Research

Coined by Kurt Lewin, then a professor at MIT in 1944 in his paper “Action Research and Minority Problems”, action research is employed when organisations need to progressively undertake a change. Lewin defines action research as “a comparative research on the conditions and effects of various forms of social action and research leading to social action” that uses “a spiral of steps, each of which is composed of a circle of planning, action and fact-finding about the result of the action”. In effect, there is a convergence of social research and programmes of action in action research to address social problems (Schwandt, 1997). Baskerville (1999) observes that in action research, it is assumed that complex social systems cannot be reduced for meaningful analysis. According to Rapoport (1970) action research aims to contribute to the practical concerns of people in an immediate problematic situation and to the goal of social science by joint collaboration within a mutually acceptable framework.

The process of action research has been one of an interactive inquiry process that balances problem solving actions implemented in a collaborative context with data-driven collaborative analysis to understand underlying causes enabling future predictions about personal and organizational change (Reason and Bradbury, 2002). Blum (1955) corroborated this two-stage process and indicated them as diagnostic and therapeutic stages. The diagnostic stage involves a close study by the researcher and the subjects of the research. Through a theory construction process, knowledge of the social domain is gained. With the status quo analysed, the therapeutic stage involves conducting change experiments. The effects of the experiments are studied and further changes introduced. This iterative process leads to the generation of new knowledge about the social environment. A considerable amount of time is needed to carry such a process to its logical conclusion.

The view of action research as an experiment is well articulated by Torbert (2002) who sees this strategy as a breakaway from traditional social science research. According to Torbert, action research challenges traditional social

science by moving beyond reflective knowledge created by outside experts sampling variables, to an active moment-to-moment theorizing, data collecting and inquiry occurring in the midst of emergent structure. Again he notes that, knowledge is always gained through action and for action. From this starting point, to question the validity of social knowledge is to question, not how to develop a reflective science about action, but how to develop genuinely well-informed action — how to conduct an action science.

Researchers have commented upon the situational nature of action research. Scholl (2004) asserts that if the process of action research is replicated, it would not be identical; neither would it produce the same results. Thus, action research is deficient in producing results that can be generalised. Checkland (1981) supports the unsuitability of action research for generalisation. He notes, “The characteristics of scientific enquiry, such as reductionism, repeatability and refutation are not ideals of valid knowledge from action research”.

Hult and Lennung (1980) provide the four main dimensions of information systems action research:

1. It aims at increased understanding.
2. It assists in practical problem solving.
3. It is performed collaboratively, which enhances competencies of the various actors.
4. It is applicable for change processes social systems.

From the foregoing, it was reckoned that action research was a rigorous research strategy in the social sciences. On the basis of Knowledge Management theories and concepts, and the underlying assumptions and processes of action research, the following observations militated against the adoption of action research for this thesis:

1. KM principles and action research – Evidence of KM concepts and frameworks that have been proved as part of an action research was rare. This lake of precedence made the use of action research in this thesis likened to ‘charting a

strange course'. Such a move would have detracted from the overall rigour of the study.

2. Complex and protracted – The cycle of actions or the iterative nature of action research makes it time consuming. The cycle of activities forms an action research spiral in which each cycle increases the researcher's knowledge of the original question, puzzle or problem and, it is hoped, leads to its solution. Given the stature and aim of this thesis, an action research was not a suitable strategy. A PhD thesis has limited time to complete it and, most importantly, the research does not intend to implement changes to an existing social system, a cause for which there may not be the wherewithal to execute. Rather, this research aimed to identify organisational factors and conditions that could serve as ingredients for a practical public sector KM framework. Thus, action research would be relevant in testing the framework to be developed. This will be another study, possibly a funded research.

3. Situated-ness of action research – The framework developed is intended to be generalised, in principle, for all public sector organisations in Ghana. Since action research lacks such a mechanism as explained earlier, its suitability for this study was called into question.

3.3.2.3 Grounded Theory

In 1967, Barney G. Glaser and Anselm L. Strauss presented their pioneering book, *The Discovery of Grounded Theory*, which challenged the hegemony of quantitative research paradigm in the social sciences. Grounded theory brings together empirical data and theory to develop new theory (Orlikowski, 1993; Eisenhardt, 1989). Thus, essentially, grounded theory methods consist of systematic inductive guideline for collecting and analysing data to build middle-range theoretical frameworks that explain the collected data (Charmaz, 2000). Throughout the research process, grounded theorists develop analytic interpretations of their data to focus further data collection which they use, in turn, to inform and refine their developing theoretical analyses. In this case, data is collected to saturate the categories which represent a unit of information composed of events, happenings and instances; and the researcher begins

analysis of data while he or she collects additional data (Strauss and Corbin, 1990).

Rigour of grounded theory approaches offers qualitative researchers a set of clear guidelines from which to build explanatory frameworks that specify relationships among concepts. Grounded theory methods do not detail data collection techniques; they move each step of the analytic process toward the development, refinement and interrelation of concepts. The strategies of grounded theory include; (a) simultaneous collection and analysis of data, (b) a two-step data coding process, (c) comparative methods, (d) memo writing aimed at the construction of conceptual analyses, (e) sampling to refine the researcher's emerging theoretical ideas, and (f) integration of the theoretical framework.

Grounded theory methods have come under contention; postmodernists and poststructuralists dispute the positivistic premises assumed by grounded theory's major proponents and within the logic of the method itself (Denzin, 1996, 1998). What grounded theory is and should be is contested. Glaser and Straus moved in conflicting directions. Glaser's (1978, 1992) position comes close to traditional positivism, whereas Strauss and Corbin's (1990, 1998) stance is close to postpositivism. A middle ground is proposed by Charmaz (2000), Constructivist grounded theory, assuming relativism of multiple social realities and recognising the mutual creation of knowledge by the viewer and the viewed, and aims toward interpretative understanding of subjects' meanings. According to Charmaz, constructivist approach to grounded theory reaffirms studying people in their natural setting and redirecting qualitative research away from positivism. Charmaz asserts that (a) Grounded theory strategies need not be rigid or prescriptive; (b) a focus on meaning, while using grounded theory, furthers, rather than limits, interpretive understanding; (c) grounded theory strategies can be adopted without embracing the positive leanings of earlier proponents of grounded theory.

Glaser and Strauss's (1967) work was revolutionary because it challenged (a) arbitrary divisions between theory and research, (b) views of qualitative

research as primarily a precursor to more “rigorous” quantitative methods, (c) claims that the quest for rigor made qualitative research illegitimate, (d) beliefs that qualitative method are impressionistic and unsystematic, (e) separation of data collection and analysis, (f) assumptions that qualitative research can produce only descriptive case studies rather than theory development.

The data collection technique of grounded theory method presents a challenge to its use as the preferred strategy for this thesis. The grounding process requires excessive focus on the data. It will be difficult to collect data “until the categories are saturated”. Even in circumstances where availability of data is less of a challenge, the time required to ground the theory will not be available under the current arrangement of study. However, grounded theory may be considered as a data analysis technique. Hussey and Hussey (1997) note valuable insight from such an application of grounded theory. It was also noted that, Grounded Theory also discovers previous theories to a large extent as basis for developing further theories.

3.3.2.4 Case Study (Chosen Method)

The case study strategy or method can be used for a wide variety of issues including policy analysis, project design and implementation and organisational performance. The concept of *case* remains subject to debate and the term study is ambiguous (Kemmis, 1980). Admitting its detailed and intensive analysis, Stake (1995) observes that case study research is concerned with the complexity and particular nature of the case in question. In reference to “the case”, Stake meant an object of study. Other researchers like Merriam (1998), Stoecker (1991), and Yin (1994) deem case study as a complete research methodology. Thus, a “case study” is both the process of learning about the case and the product of that learning...This is the position of this thesis. Again, Yin (1993) and Bryman (2004) contest the assertion that case study is a qualitative approach. They insist that the case study strategy can be used as both qualitative and quantitative method. The interest of this thesis does not lie in contributing to the debate but to assess the suitability of the case study

method to the investigation under consideration: Developing a comprehensive KM framework for Ghana's public sector based of synthesized internal and external enabling factors.

A popular definition of case study is offered by Yin (1994): "an empirical inquiry that:

- Investigates a contemporary phenomenon within its real-life context, especially when,
- The boundaries between phenomenon and context are not clearly evident"

Thus, subjects and issues involving indistinct or vague relationships are best explored through case studies. Based on Yin's definition, Kanadadi (2006, p) asserts that, "the perplexity in the relationship between various organisational factors and knowledge management practice, illustrates the appropriateness of case study enquiry in [the] subject domain". Yin (1989) indicates that case studies can be descriptive or explanatory in addition to the exploratory character depicted above. When employed in descriptive surveys, case studies try to attribute causal relationships and are not just describing a situation. Thus, a case study can be employed in both qualitative and quantitative investigations; a flexibility emanating from the underlying dual paradigmatic schemas – positivism and interpretivism (Benbasat *et al*, 1987; Yin, 2002).

The dual paradigmatic stance and the increasing use of case studies in social science research and their recommended suitability for research in organisational and management studies (Hamel, 1993; Perry and Kraemer, 1986; Yin 2002) made the case study method a credible strategy for this thesis.

The ten-point assessment criteria (*R1 to R10*) developed by Kandadi (2006) to assess the suitability of the case study method to a Knowledge Management research based on the work of some influential researchers (Yin, 1994, 2000, 2003; Alavi and Calrson, 1999; Benbasat *et al*, 1987; Merriam, 1998; Stake 1995; Walsham 1993, 1995), was adopted for this study. For clarity, the aim of the research, developing a suitable KM framework based on synthesized organisational factors and conditions, was denoted (A). The domain of the

research problem, Knowledge Management in the public sector; specifically, How to manage knowledge in the public sector, was denoted (P). The research questions were labelled Q1, Q2 and Q3.

Q1. *What major factors and conditions (organisational, political, socio-cultural, economic, technological, etc.) promote Knowledge Management in public sector organisations?*

Q2. *How will the identified factors and conditions promote effective knowledge management in public sector organisations in Ghana?*

Q3. *What initiatives, strategies and measures should public sector organisations in Ghana take in order to introduce, cultivate and assimilate the identified factors and conditions to help manage enterprise knowledge effectively?*

The assessment criteria were:

R1) The case study methodology is able to address a broad research topic (Yin, 2002): Public sector Knowledge Management as research domain (P) is broad when considered against the backdrop of actors in the sector – the Government, International Development Partners, trade union, etc.

R2) The case study methodology is used to cover complex multivariate conditions (Yin, 2002): The aim of the research (G) entailed the synthesis of several organisational factors that directly affect knowledge culture in the determined domain.

R3) The case study methodology relies on multiple sources of evidence (Creswell, 1998; Yin, 2002): This flexibility serves as a beneficial quality. To answer the three research questions (Q1, Q2 and Q3) effectively, empirical materials from several organisational sources including interviews, observations, and documentation were gathered, explored and analysed.

R4) The explanatory questions such as “how” and “why” are likely to lead to the use of case studies as a research strategy (Yin, 1994): This position was

articulated earlier. The characterisation of the case study as a *methodology* made it an ideal route to address the research problem (P).

R5) The case study methodology is preferred in examining contemporary events, when the relevant behaviours cannot be manipulated (Yin, 1994): The fact that action research was not feasible had been discussed. Case study methodology presented an alternative to study existing practices (KM-related and otherwise) in selected organisations to develop a framework based on a synthesis of the findings.

R6) The case study strategy is used when the enquirer has little control over the events being studied (Yin, 1994). As this methodology did not require gaining control over an organisational scenario, it was easy to convince organisations for the research study.

R7) The case study strategy approach, in specific, is often used in conditions where several elements and multiple dimensions of a subject need to be studied exhaustively (Alavi and Clarson, 1992; Benbasat *et al*, 1987; Eiesenhardt, 1989; Yin, 2002). Several organisational dimensions and their interrelationships needed to be explored and described exhaustively to develop the intended KM framework for public sector organisations in Ghana. The case study therefore was adequate for achieving the research goal (G).

R8) Case studies are thought to be instrumentally useful in furthering the understanding of a problem, issue, concept, and so on (Stake, 1995). This thesis aimed, among other considerations, to explore and advance the application of KM theories, concepts and frameworks in the public sector organisations, especially in developing economies. As an emerging field, the existing KM literature had sought to convey its theories and concepts in a private-sector context despite advances in public sector Knowledge Management, chiefly in developed countries. The possible adoption of KM techniques in public administration in developing countries, a rare arena, was the central theme of this thesis.

R9) The case study approach tries to illuminate a decision or set of decisions: why they were taken, how they are implemented and with what result (Schramm, 1971): Through critical analysis, the current study devised strategies, initiatives

and measures to effectively manage each of the factors and conditions discovered under Q1.

R10) In case studies, especially from collective study, the goal is to do a "generalising" and not a "particularising", (Lipset *et al*., 1956; Herriott and Firestone, 1983, 1993; Lofland and Lofland, 1984; Miles and Huberman, 1984). The framework developed is intended for use in all public sector organisations in Ghana (in principle), though, only a handful could be practically sampled. Thus, the generalisation capability of the case study methodology was an essential requirement for this thesis.

Despite the strong defence for a case study, the validity of case study findings have been questioned by Yin (2002) and Stake (1995) while Glesne and Peshkin (1992), and Kennedy (1976) have raised doubts about generalisation of the findings. To address the limitation of validity in the use of case study methodology, this research employed very credible methods of data collection and analysis to ensure that interpretation of finding were in accord with data collected. This thesis employed a multiple-case technique to introduce rigour and to overcome the limitation of generalisation of the case study strategy (Herriott and Firestone, 1983). By comparing two or more cases, there was clarity in determine when a theory was valid or not. Since the cases were contrasted but their knowledge culture characteristics synthesized, more attention was paid to the specific context and not the contrasting features of the cases as argued by Dyer and Wilkins (1991).

Other challenges with the use of case studies relate to the bias of evidence and the capabilities of the researcher. According to Hoaglin (1982) and Yin 2004), these challenges are overcome by adopting strict research protocols for the research design. The design of the study will be stringent to address the above-mentioned problems.

The section following discusses the research design where some of the measures taken to minimise the limitation of the case study strategy are highlighted.

3.4 RESEARCH DESIGN

The research design is a conceptual structure within which research would be carried out. It essentially provides for the collection of relevant information, usually with consideration to available resources. Defining research design as the logical sequence that connects the empirical data to a study's initial questions, and ultimately to its conclusions, Yin (1994) points out that development of the design is the next task after selecting the research strategy which, for this thesis, is case study. The core units of the case study design (Yin, 2003) are:

1. A study's questions
2. Its proposition, if any
3. Its units of analysis
4. The logic linking data to the propositions
5. The criteria for interpreting the finding

Flick (2006) on the other hand proposes that a concrete research design should have the following components:

1. The Goals of the study
2. The theoretical framework
3. Its concrete questions
4. The selection of empirical material
5. The methodological procedures
6. The degree of standardization and control
7. The generalisation goals
8. The temporary, personal and material resources available.

The innermost layer of Saunders *et. al's* research onion constitutes the research design stage. Guided by the aim and constructed research questions, Yin's (1994) case study design has been adapted for this thesis (Figure 3.2).

The phases of the design depicted in Figure 3.2 encompass all the relevant stages of Flick's design.

The research problem, aim and questions were clarified and justified in chapters one and two, which also outlined the motivation for the study. The research paradigm adopted for this thesis did not necessitate the development of a hypothetical position (or theoretical stance) before carrying out any fieldwork; the study however needed have a purpose (Yin, 2003). This stance is articulated by a number of researchers (including Denzin and Lincoln (2000) and Hussey and Hussey (1997), cited in Kandadi 2006), who argue that hypothesis or priori theory developments are a characteristic of positivist research design. The distinct aim of this thesis is expected to direct the study to its logical conclusion. The harmony between the research problem, questions and aim served as a guide for each of the remaining phases of the design. It is common knowledge that the case selection, data collection and analysis and framework development must be in tandem to realise the aim of any research. This is what legitimises the logic linking the data to the research questions and the interpretation of findings.

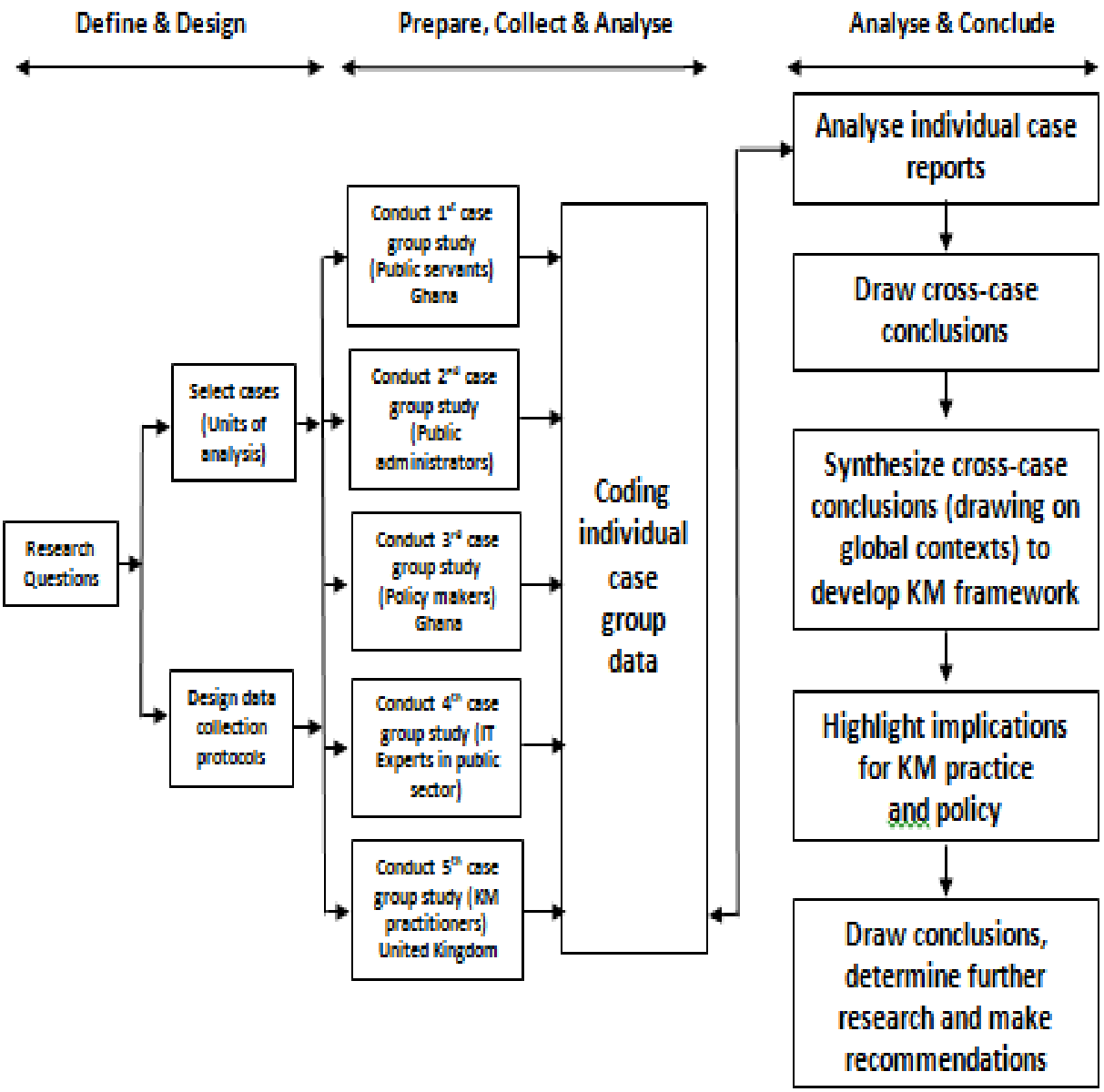


Fig. 3.2: Research-Specific Multiple Case Study Design (Adapted from Yin, 1994)

For this research the principle of openness applied: the theoretical structuring of the issue under study was postponed until the structuring of the issue under study by the persons being studied has "emerged" (Hoffmann-Riem, 1980). Therefore, this thesis admitted that theories should not be applied to the subject

being studied but should be discovered and formulated by working with the field and the empirical data to be found in it.

3.4.1 Case Selection

According to Stake (2000), selection of cases to study is a unique aspect of the case study research strategy in the social sciences and human services. Some researchers do not choose their cases to study; they receive them and are usually of paramount interest before formal study begins. However the cases are obtained, it is important that the selection process is done with utmost care so that the critical phenomenon can be understood well (Patton, 1990; Yin, 1989). The research questions usually serve as a guide to the selection of cases. Stake advocates purposive sampling to ensure qualitative fieldwork. This method of sampling is particularly important when the phenomenon of interest is rare; relevant cases are limited. Flick (2006) notes that studied subjects (or cases) are not selected on their own relevance to the research topic. They are not selected for reconstructing a (statistically) representative sample of a general population. The aim is not to reduce complexity by breaking down into variables, but rather to increase complexity by including context.

The units of analysis refer to the cases to be studied as part of the research. For this study, two main units of analysis were defined: the Ghanaian public sector and the public sector of the United Kingdom. These were further divided into five sub-units to obtain critical insight into the phenomenon of interest: Public Sector Knowledge Management. Each of the five sub-units comprised a number of purposively selected organisations and individuals. Table 3.1 gives an overview of the units and sub-units of analysis.

Table 3.1 shows a rich mix of public sector actors from Ghana – Public Servants, Public Administrators, Policy Makers and Advisors and Information Technology Officers in Ghana's public sector. Public servants dominated the respondents.

<table>
<tr><td rowspan="10">Case 1: GHANA - PUBLIC SECTOR</td><td colspan="4">UNITS OF ANALYSIS</td></tr>
<tr><td>Public Servants</td><td>Public Administrators</td><td>Policy Makers and Advisors</td><td>IT Experts</td></tr>
<tr><td>Ghana Revenue Authority</td><td>Ministry of Education</td><td rowspan="2">Ghana Institute of Management and Public Administration</td><td rowspan="2">Ghana Revenue Authority</td></tr>
<tr><td>Ministry of Interior</td><td>Ministry of Justice</td></tr>
<tr><td>Ministry of Finance</td><td rowspan="2">Ministry of Information</td><td rowspan="2">Public Services Commission</td><td rowspan="3">Information Services Department</td></tr>
<tr><td>Commission On Human Rights and Administrative Justice</td></tr>
<tr><td>Ministry of Foreign Affairs</td><td>Ministry of Trade</td><td rowspan="2">Public Sector Reforms Secretariat</td></tr>
<tr><td>Bank of Ghana</td><td>Ghana Police Service</td><td rowspan="3">National Information Technology Agency</td></tr>
<tr><td>Regional Coordinating Council</td><td rowspan="2">Ghana Revenue Authority</td><td rowspan="2">Private Consultation</td></tr>
<tr><td>Ministry of Trade</td></tr>
</table>

<table>
<tr><td rowspan="9">Case 2: UNITED KINGDOM - PUBLIC SECTOR</td><td>UNITS OF ANALYSIS</td></tr>
<tr><td>KM Practitioners</td></tr>
<tr><td>National Health Service</td></tr>
<tr><td>Department of Energy and Climate Change</td></tr>
<tr><td>College of Policing</td></tr>
<tr><td>Cabinet Office</td></tr>
<tr><td>Home Office</td></tr>
<tr><td>Department for International Development</td></tr>
<tr><td>HM Treasury</td></tr>
</table>

Table 3.1: Overview of Main and Sub-units of Analysis and Related Organisations

Consultants working for International Development Partners were classified as policy makers, in that their decisions and recommendations, more often than not, determined and defined policy.

3.4.1.1 Main Units of Analyses - Cases

The main units of analysis for this thesis were pre-defined. Looking to study the public sector of Ghana made it the only 'relevant' case. For purposes of drawing on global contexts and tracking best practices and challenges, the United Kingdom's public sector was selected as the second main unit of interest. Having the public sector, as vast as it is, as a "case", did not entail studying every aspect of it. Only organisations and individuals who were relevant and were in position to contribute towards understanding the phenomenon under investigation qualified as sub-units. For the UK public sector, the focus was on KM practitioners in the sector.

The Ghanaian public sector consists of Ministries, Departments and Agencies (MDAs). Departments and Agencies are affiliated to specific ministries. Other specialised bodies do not fall under this broad classification. The Ministries fall under the following divisions: Governance, Finance and Economy, Infrastructure and Social Services. Public servants under the supervision of administrators or managers implement policies and provide public services. These public services are financed by budgetary allocations to the ministries, departments and agencies. Few MDAs have the mandate to retain some percentage of revenue collected or generated in the course of their functions.

The public sector employs majority of formal workers in the country. This means that the sector engages substantial numbers of knowledge workers. Thus, it is inferable that vast amounts of knowledge are generated by the public sector. It is common knowledge that workers in the public sector are less motivated compared with their counterparts in the private sector in terms of remuneration and incentives. Consequently, work attitudes in both sectors are

not the same. In many instances, most workers in the public sector can easily be tagged as apathetic and stale.

The sector is overstaffed and social and political considerations 'guide' decisions and actions. This is part of the cause of low morale in the sector. Consequently, organisational and knowledge culture leaves much to be desired. Initiatives and training programmes to harness knowledge resources are virtually non-existent. On-going reforms in the sector are expected to reverse this trend. The presidency and some state officials in their communication allude to the important role of knowledge in the nation's endeavours. With some efforts underway, including a nation-wide ICT programme including deployment of infrastructure, concrete studies such as *this research* will go a long way to help improve knowledge awareness among the Ghanaian populace.

In the UK, Departments and their Agencies are responsible for implementing government policy. There are twenty-four ministerial departments and nineteen Non-ministerial departments. Agencies and other bodies number three hundred. Some departments like the Ministry of Defence cover the whole UK. Due to the devolvement of some aspects of government to Scotland, Wales and Northern Ireland, departments such as Department for Work and Pensions, do not cover Northern Ireland.

The level of transparency and accountability in UK's public sector is remarkably high. The government publishes information on how government works to allow ordinary citizens to make politicians, public servants and public organisations more accountable. The information usually includes how much public money has been spent on what, the job titles of senior civil servants and how much they are paid and government performance against its objectives. Legislation such as the Freedom of Information Act gives citizens the right to request any public sector organisation for information on any subject once it is recorded.

Freedom-of-Information request can be made by anybody, irrespective of age, status and nationality. Public administration in the UK is therefore a 'serious

business', requiring public/civil servants to be as efficient as they can be to meet all expectations from the citizenry. The high scores chalked by UK on the Knowledge Assessment Methodology (KAM), as discussed in chapter one, are deserved. United Kingdom's knowledge economy indexes for Education, Innovation, ICT and Economic Incentives and Institutional Regime reflect the application of knowledge in the work of government. Current challenges in UK's public sector are mostly economic in nature. Austere measures embarked upon by the coalition government are not likely to work against established knowledge culture in the sector. Instead, the Civil Service Reform Plan introduced by the government in 2012 has become a political driving force compelling public sector organisation intensively apply and embed knowledge management techniques in everyday processes and routines.

The first-year report on UK's Civil Service Reform Plan published by the Civil Service in July 2013 claimed the Civil Service is smaller than at any time since the second World War and, as a result, productivity has increased has improved marked since 2010 (Civil Service, 2013). Thus, the intended study of UK's public sector to collate policies, programmes and interventions geared toward effective management of knowledge resources is expected to yield significant results.

3.4.1.2 Sub-unit of Analysis

As already explained, sub-units of analysis were drawn from the main units. For the Ghanaian public sector, they included public servants, public administrators, policy makers and advisors and IT experts. With the exception of some policy makers and advisors who have other affiliations, the remaining sub-units fall wholly under the employ of the Government of Ghana. The administrators and some of the IT experts were in management positions. For this research, only senior public servants were deliberately sampled due to their depth of knowledge and line of duties.

The selection of the sub-units was guided by the aim and questions of the study. Each of the sub-units is an active actor in the sector and potentially important player in shaping knowledge culture in the sector. The interviewees' number of working years in the public sector was an important consideration. For each of the sub-units, diversity was introduced by attracting interviewees from different organisations. This helped to produce rich mixture of responses.

3.4.1.2.1 Public Servants

Public servants selected for the study come from the following organisations: Ministry of The Interior (two interviewees), Ministry of Finance (one interviewee), Ministry of Trade (one interviewee), Ministry of Foreign Affairs (one interviewee), Ministry of Local Government (one interviewee), Commission on Human Rights and Administrative Justice (one interviewee), The Central Bank of Ghana (one interviewee) and Ghana Revenue Authority (one interviewee).

All the nine (9) interviewees were senior staff members at their respective outfits. They were purposively selected based on their accessibility, willingness to participate and rich experience and insight. The gender and age of interviewees were not part of the selection criteria. There were three female and six male participants. One of the interviewees was a union executive. Their job schedules range from Administrative Assistant, Research Officers to Operations Officers.

3.4.1.2.2 Public Administrators

Interviewees with management responsibilities were tagged as Public Administrators, in that they wielded some controlling power in the sector and their actions and inactions had direct impact on knowledge culture. Six public administrators participated in the study. They were mostly Human Resource Managers and thus had direct oversight responsibility for training and personnel

development in their respective organisations. Organisations under this sub-unit include Ministry of Trade, Ministry of Information, Ministry of Education, the Ghana Police Service, Ministry of Justice and the Ghana Revenue Authority. Just like the public servants, gender was not a consideration in the selection criteria. There were four female and two male participants

3.4.1.2.3 Policy Makers and Advisors

The most diverse group was the Policy Makers and Advisors sub-unit. This group comprised individuals who had worked within Ghana's public sector in the capacity of a consultant or advisor to the Government, or whose work, by and large, impact public policy. All five participants in this group had worked with some top public officials to chart one policy direction or the other for the country. They included an external consultant from Norway, a Director at the Public Services Commission, and two senior officials who worked with the Ghana Institute of Management and Public Administration (GIMPA) who participated in the World Bank's Knowledge Economy Workshop for Ghana in 2002. GIMPA had served as one of the institutions that had provided training and resource to most public and political leaders. The fifth participant is was the Director in charge of Research, Analysis and Information Management at the Public Sector Reform Secretariat.

3.4.1.2.4 IT Experts

The Ghanaian public sector can boast of modest ICT infrastructure. Two of the participants came from organisations that arguably have some advanced information management systems in place: Ghana Revenue Authority and the Information Services Department. Based on their professional orientation within the IT circles and public administration, they shed some light on ICT challenges in the public sector and how the challenges could be addressed.

The third participant was a Director at the National Information Technology Agency (NITA), an agency set up, following recommendations made by the World Bank's Knowledge Economy Assessment Report on Ghana. He elucidated the IT services NITA was putting in place to held public sector organisation take full advantage of the Internet. He explained that the main remit of NITA included the deployment of nation-wide ICT infrastructure to serve as the basis for ICT-enabled accelerated development agenda.

3.4.1.2.5 KM Experts

Research participants from UK were mostly public officials whose schedules involved the deployment of knowledge management practices and techniques to improve knowledge culture in their respective sector organisations. The participants were drawn from seven public establishments with knowledge management initiatives in place. Almost in all cases the KM strategies aimed at embedding knowledge culture into business processes and routines so that knowledge sharing and all other techniques of improving knowledge use and optimisation become seamless within business operations. The participants were Knowledge Managers from the Home Office, College of Policing, the National Health Service and the Department for Energy and Climate Change. The rest were from the Department for International Development, the Cabinet Office and HM Treasury. The total number of participants was eight (two participants from the Home office), including seven females and one male. They had varied degrees of expertise in KM practice and together their input provided invaluable contribution towards the development of the developed KM framework.

3.4.2 Data Collection

Collecting the empirical material for an investigation is a critical phase of any research. Rigour and variety in the methods employed and collection from multiple sources have been advocated by social researchers as a means of

obtaining the right kind and quality of data and to forestall misinterpretation (Stake, 2000; Yin 2003; Silverman, 2005). This approach has been termed triangulation. Triangulation connotes the idea of combining two or more views, methods or approaches in a research in order to obtain a more accurate picture of a phenomenon of interest. For this study, interviews, observation and documentation/archival records were employed as data collection methods in order to give analysis of the research greater scope and richness.

Fontana and Frey (2000) make this observation, "We live in an interview society, in a society whose members seem to believe that interviews generate useful information about lived experience and its meaning. The interview has become a taken-for-granted feature of our mediated, mass culture. But the interview is a negotiated text, a site where power, gender, race and race intersect". Interviews were employed as the main data collection method for this thesis. Understood as a conversation, the art of asking questions and listening and focused to gain insight into a phenomenon, the interview questions were crafted in line with the goal of the study. Based on literature review and preliminary fieldwork, a semi-structured interview instrument was developed to explore the knowledge culture within public sector set up in Ghana and the United Kingdom. The lived experiences of the subjects were elicited within the context and boundaries of the research questions.

To obtain responses relevant to the domain of interviewees who constitute different units of analysis, five separate questionnaires were constructed. This helped to cater for interviewees who were categorised under "Public Servants", Public Administrators", "Policy Makers and Advisors", "IT Experts" and "KM Practitioners". The diverse and rich data that emanated from the lived experiences of these categories of interviewees and the subsequent analysis and synthesis of the cross-case reports, defined the "originality" of this research.

Each interview session was scheduled to last between two-and-a-half and four hours and would be conducted at the organisational premises of the interviewees and at their convenience. As far as permitted by the respondent,

interviews were recorded. In fact, with the consent of interviewees, about ninety per cent of interviews were recorded using a digital device. Where interviewees objected to recording the interview session, copious notes were taken to capture their responses. Follow-up interviews were pre-arranged with respondents so that further information could easily be obtained whenever required in the course of analysis.

For the Public Servants, Public Administrators and KM Practitioners sub-units, documentation and archival records as well as direct artefact observation of their respective organisations were an important component of the data collection process. Materials such as strategy document, white papers, government directives, best practices, and special reports were studied meticulously. Documents held in electronic format on corporate websites were also reviewed. Infrastructural facilities, technological and physical, of the organisations studied were also observed. Where possible, respondents' typical daily interactions with colleagues and superiors were investigated and recorded.

Transcription of the interview was carried out soon after each session in line with Silverman's (2005) admonition that "data analysis should not only happen after all data has been safely gathered". Studying and coding of the transcribed data were a routine exercise. This enabled familiarity with and eventual emersion into the empirical material; a prerequisite for effective data analysis.

The design of the interview questionnaire took into account the interrelationships between various organisational elements impacting the management of enterprise knowledge. Specifically, the rich insight expounded by the BCPI Matrix (Kandadi, 2006), which presents a meta-level framework for managing knowledge in distributed organisations, informed the questionnaire design. The use of this matrix was not only intended to engage with this comprehensive framework but to extent its frontiers where possible through new insights that were gained as the study progressed.

As described in chapter two, the four core categories of the BCPI Matrix are: Business Focus, Culture, Processes and Infrastructure. Each of these categories have a number of constituent KM factors that together determine the need for knowledge management in organisations (business focus) and issues affecting the initiation, implementation and the growth of knowledge management as a corporate strategy (organisational culture, business processes and physical and technological infrastructure).

These elements served as guide to the themes that emerged during coding of the empirical data. Given the setting of the Ghanaian public sector and the rarity of knowledge management practices, less condensed and culturally relevant themes were sought and analysed.

3.4.3 Data Analysis

One of the major issues in qualitative research is the extent to which data should be analysed. In qualitative research, data are given meaning through a rigorous and logical process as defined by the design; in this investigation, a case study design. The last two components of Yin's (2003) case study design are addressed by the data analysis phase. Several methods of data analysis for qualitative studies have been explained in the existing literature on social science research methods. Some researchers (Hussey and Hussey. 2007; Robson, 1993 and Yin, 2004), however, have advocated non-quantifying methods for case studies. Examples of these non-quantifiable methods include data displays, cognitive mapping, general analytical procedure, grounded theory, content analysis and thematic analysis, ethnography, and phenomenology.

One data analysis method that is increasingly becoming popular for analysing qualitative data in business research is grounded theory (Hussey and Hussey, 1997). Given its rigour and the preponderance of literature explaining and advancing the frontier of the method, this research study adopted grounded theory as the main technique for data analysis. Grounded theory was thus,

employed as a data analysis tool and not a research methodology. Acknowledged as one of the most influential qualitative approaches (Strauss and Corbin, 1998), grounded theory mechanics enable theory to be discovered through systematic data collection and analysis. The use of grounded theory as data analysis technique in organisational studies is reported by Charmaz (1995).

Other data analysis methods that could have been employed were content analysis and thematic analysis. As an approach to the analysis of documents and texts, content analysis seeks to quantify content in terms of predetermined categories and in a systematic and replicable way. It is a very flexible method that can be applied to a variety of different media. But content analysis cannot be used as it leans towards the positivist paradigm and so emphasize priori theory building (Flick, 1998, Locke 2001). Though poorly demarcated and rarely acknowledged, thematic analysis is a widely used qualitative analytic method (Boyatzis, 1998; Roulston, 2001). It typically reports patterns (themes) within data, and just like content analysis it requires priori hypothesis and is inclined towards positivist paradigm.

Using grounded theory as a data analysis tool involves a highly structure process comprising:

- Open coding: the disaggregation of the data into units
- Axial coding: recognising relationships between categories.
- Selective coding: the integration of categories to produce a theory.
- Coding for process: defining a series of evolving sequences of action/interaction that occur over time and space.

Open Coding: Strauss and Corbin (1998) defined open coding as the naming and categorizing of phenomena (concepts and themes) through close examination of the data. Open coding involves two analytical procedures: making comparisons and asking question; these help to label the phenomena in

terms of concepts and categories. It is an ‘open’ process because the data is explored without making any prior assumptions about what might be discovered. They describe a concept as an abstract representation of an event, object or action (and interaction) that is considered significant in the data by the investigator. The concepts form the building blocks of theory and are uncovered if the text is opened up and the thoughts, ideas and meanings contained therein are exposed. For concepts so identified, the key is to avoid mere descriptions. Concepts are to be labelled with names, which represent or stand for them. So, a concept can be labelled “conferring” and not “talking to the supervisor”; “information seeking” and not “questioning or looking”.

In open coding, constant comparison approach is used in order to saturate the category or concepts or themes. Saturation is looking for instances that represent the category and continuing to look (and interview) until new information does not provide further insight into the category. Strauss (1987) provides four essential guidelines to follow in the data analysis process:

- In analysing the data, specific and consistent set of questions must be asked, keeping in mind the original objective of the investigation. In so doing, the researcher ensures that the data fits with the research objectives.
- As many categories and incidents as possible should be included while analysing the data minutely.
- Writing a theoretical account must accompany actual coding. This enables ideas and theoretical perspectives that may rise as data are being coded to be noted and later referred to for basis of theoretical decisions, etc.
- The analytical relevance of common variable such as age, gender, ethnicity, etc. should not be assumed until their relevance emerges from the data.

Axial Coding: Axial coding explores the relationship of categories and makes connections between them. Open coding disaggregates data so that categories can be formed. Procedurally, axial coding is the act of relating categories to sub-categories by applying a model. Essentially, this means specifying:

- A category (concept or theme) in terms of the conditions that helped to give rise to it.
- The context in which it rises.
- The actions and interactions that step from it.
- Its consequences.

Strauss and Corbin (1998), cautioning against the flawed assertion that initial condition lead to an action or interaction, note that, action or interaction may be taken in response to multiple conditions, which may have different dimensions. They indicate that some of these conditions might have occurred in the past, some may be happening the in present, and/or some may be anticipated in the future. Strauss and Corbin observe that there are intervening conditions or 'broader structural context', which act in two ways: constrain the action being taken or facilitate it. Grounded theory, by and large, is concerned with people's response to phenomena within defined contexts in its attempt to build theory. Theory, under the grounded theory method, is built by integrating categories whose relationships have been identified during the process of axial coding.

Selective Coding: Selective coding is a process of refining and integrating the categories to form a larger theoretical scheme of core categories. In other words, selective coding involves selecting core categories from the data in order to form the grounded theory. In terms of processes, this is not too different to axial coding, the main difference being that it is completed at a much higher level of abstraction (Gray, 2009). Through axial coding, categories are derived and defined in terms of their properties, dimensions, and so on. In the case of selective coding, core categories are sought through which a 'story' can be told, according to Gray. Two characteristics govern the development of core categories: they must be central (i.e. many major categories can be related to them); they must appear frequently in the data (this means that in almost all cases there must be indicators pointing to these core categories).

The selective coding involves a number of stages that illuminate the social processes going on unconsciously among a group of people comprising:

- Finding a story line formulated around core categories: This is the conceptualization of the story around the core category to produce a general, descriptive overview.
- Relating sub-categories to the core categories: This is where subsidiary categories are related to the core category to provide an analytical version of the story.
- Validating these relationships against the data: This where the researcher returns to the data and asking whether the story fits for all those observed in the study. This can be construed at grounding the theory.
- Filling in categories that need further refinement.

Coding for Process or Filling in Categories: Filling in categories that need further refinement, according to Strauss and Corbin (1998), is carried out for two important reasons: to give conceptual density and for developing more conceptual specificity. If writing the report reveals gaps and inconsistencies, this filling-in phase may require further data collection. Thus, in grounded theory, data collection and analysis may not necessarily be sequential but can be an iterative process. Strauss and Corbin (1998) define process as showing the evolving nature of events by noting why and how action/interaction will change, stay the same or regress. This way, the threshold is set beyond just noticing changes in phenomena to include proffering explanation for their occurrence. Process describes the ability of individuals, groups and organisations to respond to and shape the situation in which they find themselves.

Drawing on the work of Strauss and Corbin, Kandadi (2006) notes that analysing the data for process provides a sense of life or movement to the theory and assists in the discover and integration of the variations. Analysing data for process is carried out simultaneously with the other coding processes. A process is represented in data by the happenings and events that may or may

not occur in continuous forms or sequences. It can always be located in any organisational context. Kandadi (2006) concludes that a process can be broken into sub-processes and may include individual tactics, strategies and routines actions that make up the larger act.

Two of the key features of grounded theory are theoretical sampling and theoretical sensitivity. Theoretical sampling is the selection of participants within a naturalistic inquiry, based on emerging findings during the process of the study to ensure the key variables are adequately represented. Theoretical sensitivity, on the other hand, conveys the idea of maintaining an awareness of the intricacies and ramifications of meaning in data (Strauss and Corbin, 1998). According Strauss and Corbin, theoretical sensitivity implies the ability to give meaning to data, the capacity to understand and capability to separate the pertinent from that, which is not. With the aim of making the emerging theory more generalizable and building confidence in the emerging theory, theoretical sampling seeks to minimize differences across cases and maximize similarities. The number and case groups selected within each of the cases studied for this research were intended to satisfy the condition for theoretical sampling.

Strauss and Corbin's (1990) Systematic comparisons and Far Out comparisons techniques were adopted to enhance the theoretical sensitivity of the coding process; that is, to ensure that all dimensions of the data were explored. Systematic comparison involves thinking about all the ways in which some phenomenon you have found in the data can vary and be treated and seen differently by people. In the case of far out comparisons, the comparison is made with cases and situations that are similar in some respects but quite different in others and may be completely outside the study

According to Glazer (1992), theoretical sensitivity stems from a number of sources:

- The literature, which helps highlight issues and what might be important and unimportant.

- The professional experience of the researcher, showing what is important in the field of research chosen, and how things work, allowing events to be more clearly understood and interpreted.
- Personal experience, including experience in research, which can facilitate the making of comparisons.
- The analytical process itself, which can provide insights into the meaning of the data.

Chapter four discusses how these coding techniques (open, axial, selective and process) were applied to the empirical material of this research.

3.5 VALIDITY, RELIABILITY AND GENERALISABILITY

Gray's (2009) work was drawn upon in this section, which addresses the validity and reliability of data collection and analysis methods. Validity of the interview instrument means that it must measure what it was intended to measure. This is addressed by orienting the question content to directly concentrate on the research objectives. According to Arksey and Knight (1999), validity of interview instrument is strengthened by:

- Using interview techniques that build rapport and trust, thus giving informants the scope to express themselves.
- Prompting informants to illustrate and expand on their initial responses.
- Ensuring that the interview process is sufficiently long for the subject to be explored in depth.
- Constructing interviewing schedules that contain questions drawn from the literature and from pilot work with respondents.

On the issue of external validity, the extent to which findings from the study could be generalised for other developing countries, Arksey and Knight have this to say:

- Samples should be selected in such a way that allows the phenomenon of interest to be viewed from all relevant perspectives.

- Sample size or sub-samples (that represent different perspectives) can be increased in size until no new viewpoints are emerging from the data. They indicate that a sample size of eight is often sufficient; but the data should be verified by the use of a survey.

Consistency in measurement is an attribute of a reliable interview instrument. With standardized questions, the potential for consistency is high. Interviewees in the same sub-sample responded to the same set of questions as this was expected to enhance reliability of the research instrument. All interview sessions followed the same protocol to minimise interviewer bias which include departing from the interviewing instructions, poor maintenance of rapport with the respondent, altering factual questions, rephrasing of attitude questions, careless prompting, asking questions out of sequence and biased probes. The following protocols were observed during data collection stage:

1. Questions were asked in a way that conveyed similar understanding in each interview session. Since the interviews were semi-structured, questions were only varied if they fitted the flow of the interview and helped to make the conversation natural and explore new phenomenon emerging from interview process.
2. Questions were repeated if asked by respondents.
3. Respondents' refusal to be recorded or to answer questions was accepted without any sign of irritation.
4. Probing was carried out in a non-directive manner. Respondents' statements were clarified and meanings extended without imposing meaning on them. Also, responses were challenge in a courteous manner if there were inconsistencies.
5. Only appropriate verbal and non-verbal feedback was given.

Validity and reliability are also required in the data analysis process. The following were implemented to achieve validity in the use of grounded theory for analysing the data:

1. Analytic considerations: Exploration of rival explanations (pattern matching), explanation building, analysing negative cases and memoing.
2. Presentation: Provision of audit trail and evidence that supported interpretations; acknowledgment of the researcher's perspective and provision of thick descriptions.

On the other hand, to ensure reliability or stability of findings, multiple sources were consulted in the data collection process. Two methods of triangulation pursued were:

1. Data triangulation: Data were gathered using multiple sampling sources.
2. Multiple or methodological triangulation: A variety of methods, data types, and theories were combined.

3.6 RESEARCH ETHICS

Ethical issues arise at a variety of stages in social science research. Diener and Crandall (1978) give a summary of ethical considerations divided into four main areas:

1. Whether there is harm to participants;
2. Whether there is a lack of informed consent;
3. Whether there is an invasion of privacy;
4. Whether deception is involved.

Other researchers including Bryman (2004), Coolican, (1992), Christians, (2000) support the outline and add the following:

1. Maintain dignity,
2. Protecting the interest of the subject firms or case organisation,
3. Ensuring the accuracy of data while publishing the research finding.

Given the number of respondents and organisations involved, the issue of ethics was paramount in this study. It is an accepted fact that, the value of the best research is not likely to outweigh injury to a person exposed. Stake's (2000) words were acknowledged within the current study, "qualitative researchers are guests in the private spaces of the world. Their manners should be good and their code of ethics strict".

There were 'political undertones' to the study as the researcher was himself a public servant in Ghana. This was bracketed as much as possible so as not to interfere with the validity and reliability of the investigation. In particular the following protocols were crafted to guide and to put the research on a high ethical footing, even beyond its completion:

1. Respondents' anonymity was maintained – no part or section of the case report revealed statements or claims made by respondents.
2. Relevant forms of triangulation were employed to ensure data accuracy.
3. The professional role (and any personal interest) of the researcher was not allowed to colour the presentation of the data and the final report.
4. Respondents and participating organisations would be notified and their consent sought before publishing any aspects of this study.
5. Extreme care will be taken to store the research data safely to ensure that privacy of respondents is not compromised.

3.7 CHAPTER SUMMARY

Chapter three evaluated the methodology of the study. Issues discussed and appraised included the paradigm adopted, how the research was approached and the design of the study. The choice of an interpretivist paradigm informed the major decisions taken including the selection of a qualitative approach, a case study strategy and a qualitative data analysis technique – grounded theory. The chapter concluded with a solid discussion on issues necessary to

ensure validity and reliability of the adopted methodology and to address potential ethical challenges.

4 FINDINGS AND FRAMEWORK DEVELOPMENT

"*The ultimate authority must always rest with the individual's own reason and critical analysis*"

Dalai Lama

4.1 INTRODUCTION

The findings of this research and their interpretations are collated, synthesized and presented in this chapter. As illustrated in the research-specific multiple case study design, the individual case units or groups were analysed separately and cross-case conclusions were drawn. The cross-case conclusions were further synthesized, drawing on global contexts and expertise gained from the field. It should be noted that, the developed KM practice framework is grounded in this synthesis to make it robust and practical. Thus, this chapter is divided into two major sections – first, the presentation of analytical findings of the empirical study, and, second, presentation of a framework (or sets of guidelines) for practicing knowledge management in public sector organisations, especially Ghana.

Expert knowledge gleaned from the contemporary KM literature underpins the interpretations of the findings and these analytical findings constitute the bedrock of the developed KM practice framework. In both cases, expertise gained from the public service was applied where necessary, and such interventions are clearly tagged. Implications of the findings in different contexts are discussed in chapter five. The current chapter concludes with possible personalisation strategies for implementing the framework through a simplified knowledge management maturity model.

Preceding this major sectioning of the chapter is a recapitulation of the investigated data sources (or units of analysis) and application of the different stages of coding under the grounded theory data analysis technique. This review is necessitated by the different horizons of the case units in the two main case studies – UK's public sector and the Ghanaian public sector, and the need to demonstrate the rigour of the data analysis process to evince the integrity of the findings and interpretations.

4.1.1 UNITS OF ANALYSIS AND APPLICATION OF THE CODING PROCESS

Two key objectives of this research were empirical studies into the latent and dominant KM drivers and enablers in the UK and Ghanaian public sector organisations. By way of synthesizing the outcomes of these studies and taking into account the peculiar terrain of the Ghanaian public sector, and applying expert knowledge contained in the KM literature, it was the aim of this research to develop a KM framework for the public sector. The developed KM practice framework will provide public sector organisations in the Ghana with the tools, techniques and the organisational essence that will facilitate initiatives or projects geared towards institutionalising the high aims of knowledge creation, sharing, storage and re-use and linkage with external knowledge sources. These objectives required the selection of a wide range of representative participants within the two case regions. Beyond the participants' accounts elicited through interviews, there was the need to observe participants and to consult relevant documents for independent evidence. Given the disparate constituencies of the two case regions as far as the phenomenon under study was concerned, different methods were employed to select the research participants. The result made it necessary to construct different units of analysis for the two case regions.

- ***Units of Analysis and justification***

  In the UK, emphasis was placed on government departments with established KM programmes and KM experts (Knowledge Managers or Knowledge and Information Managers). Seven organisations were conveniently selected and in-depth interviews were conducted with each of the KM experts. Each of the seven organisations (represented by the KM expert) was reckoned as a unit of analysis. Data from each of these organisations constituted an empirical material from which conclusions were drawn. For the Ghanaian public sector (the second case), there were four units of analysis:

  - Public Servants
  - Public Administrators
  - Public Policy Makers/Consultants
  - IT experts in the public sector

  Each of the four units of analysis or case groups was made up of cadres or officials from across several government ministries, departments and agencies. The emphasis was on the different individual actors in the public sector.

  For instance, 'public servants' as a unit of analysis were drawn from eight government ministries and agencies; and Public Administrators (public sector workers in managerial positions) were drawn from six. The other units of analysis – Policy Makers/Advisors and IT experts – also come from several organisations. There was an external consultant among the Policy Makers/Advisors. The advantage of sampling a case group across government departments made it possible to obtain a rich mix of contextual data as each participant in that unit or case group brings a different perspective to the different interview questions. With no tangible KM practices or techniques in place in almost all participating organisations from Ghana, the main aim of the interviews, among other expectations, was to unearth latent or assumed organisational factors and conditions that can be leveraged for KM initiatives.

- ***Application of the Coding Process***

  The challenge of using the data collection technique of the grounded theory method was amply discussed in chapter three. The brevity of time at the expense of this research and the difficulty of collecting data until categories are saturated were proffered as the main challenges. However, this research embraced the data analysis technique of the grounded theory method as it is increasingly becoming popular in analysing qualitative data in business research (Hussey and Hussey, 1997). Its allure lies in its rigour and the rest of this subsection will be devoted to explaining the coding processes undertaken to arrive at the findings of this research.

  The main empirical material analysed was the interview data. In all twenty-three interviews were conducted, seven in UK and sixteen in Ghana. Observations and secondary data in the form of policy documents and Knowledge Management Strategies provided corroborative evidence. The data analysis processes involved memoing, coding and constant comparison. A memo was kept to record thoughts, feelings and ideas as the data analysis progressed. It should be noted that some form of memoing had been carried out since the research commenced, but it was intensified during the data coding process. The memo served as a reflective piece for the researcher as well as enabling a logic trail. Basis for decisions taken were easily untangled when the memo is referred to. MAXQDA, a qualitative data analysis tool, was employed to aid the coding process.

  According to Birks (2012), memoing is the essence of grounded theory. Birks claims that a researcher will struggle to produce a grounded theory that has the explanatory power that distinguishes it as a grounded theory if he/she does not memo. As a lubricant that facilitates the process of research when using a grounded theory, memoing provides the researcher with opportunity to record events and hence the luxury of an

audit trail. Birks observes that the analysis that takes place in grounded theory really occurs in the memos themselves.

Analysis stage	Description	Research question addressed
Open coding	— Discovering and labelling concepts based on the case study data. — Abstracting and grouping the concepts into categories and sub-categories. — Developing the categories further in terms of their properties and dimensions.	• Using the developed Categories as the factors and conditions that promote KM in public sector organisations.(UK) • Using the developed Categories as the condition that can promote KM in the public sector (Ghana) • The categories address the first research question of this study
Axial Coding	— Relating the categories to sub-categories by integrating the data. — Specifying categories in terms of the conditions that helped to give rise to it. — Identifying the context in which the categories arise. — Specifying actions and interactions that stem from the categories and their consequences.	• Identifying and describing the causal conditions and consequences for each factor and each condition promoting KM. Insights into how these factors and conditions promote KM and how they can be deployed within public sector organisations will be provided. The axial coding stage helps to address research questions two and three
Selective Coding	— Deciding and defining core categories and finding a storyline formulated around core categories that explain the KM practices. — Relating sub-categories to the core categories.	• The core categories serve as the major KM factors and conditions for the KM framework development. The selective coding thus assists in addressing the goal of the research.
Coding for Process	— Identifying and describing the flow of work that is represented in data as happenings and events. — Capturing the dynamic qualities and varied scenarios of action/interaction.	• Assists in presenting the KM practices as a process at conceptual al level. • Helps to explain why and how each of the factors and conditions influencing KM will change, stay

		the same or regress. Thus, coding for process provides basis for conceptualizing organisational scenarios or dynamics that will in influence the KM factors and conditions.

Table 4.1: Application of grounded theory data analysis techniques (Source: adapted from Kandadi, 2006)

While coding the interview data, links and interrelationships identified intuitively were recorded in the memo. Memoing formed the explanatory bases for the coding, provided reasons for separating or integrating codes and abstracting to a high level. It also served as an eye to the analytical processes. In general, the memo contains assumptions, expectations, among others, and its content progressing from operational decisions to analytical decisions, and then to theoretical decisions.

Whereas the findings of this research are based on the open, axial and selecting coding techniques of the grounded theory method, the proposed KM practice framework is developed based on the process coding technique. Table 4.1 gives a summary on how these coding processes were applied to this research. The coding technique was largely analytical (or theoretical) as it was intended to inductively derive theory from a corpus of data about public sector knowledge management.

4.2 FINDINGS AND DISCUSSION

Using the open and axial coding processes, a number of organisational factors and conditions that impact knowledge management in public sector organisations were identified. In all, a total of fifteen (15) factors and conditions were identified. For the purpose of presenting the findings of this study, organisational factors that promote knowledge management refer to tangible elements that influence knowledge management. Organisational conditions, on

the other hand, are construed as those soft or intangible elements that can positively influence knowledge management if well courted or controlled. In light of this segregation, seven (7) organisational factors and eight (8) conditions were identified.

For each of the factors and conditions, interpretations and relevant discussions are presented and described with the aim of exploring their respective roles in KM and their interrelationships (in the studied organisations) and determining their applicability in the Ghanaian public sector context with the view to introducing KM as a permanent or stable competence in the sector.

4.2.1 Presentation of Findings: A Schema

Factors and conditions identified as potentially impacting KM programmes are subsumed under core categories. Figure 4.1 presents a schema or pictorial outline of how the findings have been represented in this research report. From the diagram, core categories are stated, described and analysed followed by a thorough discussion of the constituent KM factors and/or conditions. These KM factors and conditions are discussed under the following subheadings to explore how they influence KM in the studied organisations in the United Kingdom and their applicability in the Ghanaian-KM context:

- Concepts and Context
- Characteristics
- Application to the Ghanaian KM Context

Substantiating codes or interview extracts from research participants are displayed to buttress the particular influence or role of the factor/condition in the KM or potential KM programme in the United Kingdom and Ghana, respectively.

Under ‘Concepts and Context’, base elements or building blocks for the factor or condition are described. They constitute terms, words and phrases from the

body of data collected that allude to the existence of the factor or condition. The context in which the factor or condition arises or how it is developed is also described.

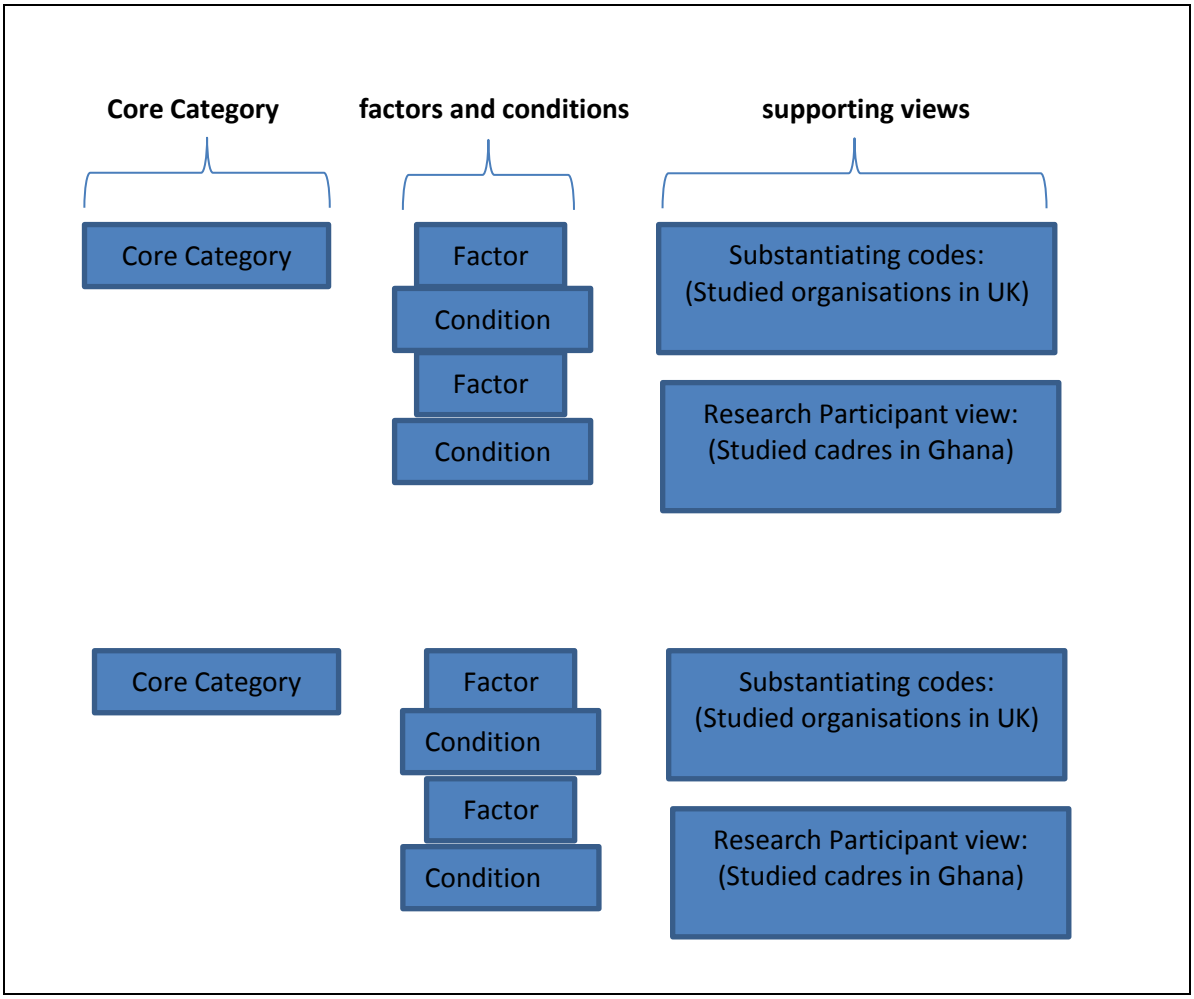


Figure 4.1: Presentation of findings: A Schema

'Characteristics' describes actions and interactions that stem from the factor and/or how the factor or condition influences knowledge management in public sector organisations. Interventions for promoting the factor or condition (if it has a positive influence of KM), interventions for addressing the factor or condition

(if it is a challenge to KM); and/or highlighting its relative strength if it presents a business need for KM, are also described under *Characteristics*.

The study sought to *learn* from organisations in the UK with KM programmes and to *share* the knowledge with public sector organisations in Ghana, which constitute a potential constituency for KM initiatives. This learning and its potential implications in the Ghanaian environment is discussed under 'Application to the Ghanaian KM Context'. Though not explicitly marked out, for purposes of clarity and thoroughness, the potential role and impact of the factors and conditions have been discussed under four labels:

- Acquisition
- Absorption
- Prevalence
- Promotion

The paragraphs following explain these labels.

'Acquisition' describes the strategies, initiatives, techniques, measures, activities and tactics that can be adopted to introduce and cultivate the factor or condition within public sector organisations in Ghana. Finally, the strategies, initiatives, techniques, measures, activities and tactics needed to assimilate the factor or condition into the social fabric of the public sector organisations in Ghana are described under 'Absorption'. Discussions under Acquisition and Absorption will be informed by a synthesis of the empirical data from Ghana and the United Kingdom.

Where the factor or condition presents a need for KM or potentially inhibits KM in the Ghanaian context, it will be discussed under 'Prevalence' and 'Promotion', instead of 'Acquisition and Absorption', as aforementioned. Under 'Prevalence', the presence and extent of the KM need or inhibiting factor or condition will be discussed. 'Promotion', on the other hand, will explore practical

ways of highlighting the KM need or addressing the inhibiting factor or condition to make KM a potentially viable venture.

As already indicated, description of each of the factors under Concepts, Context, Characteristics, Consequences, Acquisition and Absorption, is intended to comprehensively answer the second and third research questions.

4.2.2 Core Categories, Factors and Conditions

Carefully distilling and integrating the identified factors and conditions using the selective coding technique yielded four core or major categories. The factors and conditions are grouped under these core categories based on their similarities and their contemporaneous relationship in explaining the phenomenon under study. Representing defined and concrete parameters covertly or overtly affecting knowledge management in public sector organisations, the four core categories are:

1. Expectation
2. Environment
3. Means
4. Support

A distinct difference between content analysis and the use of grounded theory as a method of analysis is the degree of abstraction. The core categories helped in raising the level of abstraction of the study findings, which provides an ingredient for seamless understanding of the findings and development of the proposed KM framework for public sector organisation. Creating the core categories through the selective coding process involves a number of stages that illuminate the social processes going on unconsciously among a group of the identified factors and conditions (Gray, 2009). For this study, each core category is underpinned by a story line formulated around it; related to the sub-categories defining it; and these relationships validated against the data. Table

4.2 presents the four core categories or organisational dimensions with their constituent KM factors and conditions identified during the open and axial coding stages.

Core category (based on selective coding)	KM factors and conditions (sub-categories based on open and axial coding)
Expectation (C1)	Knowledge Dispersion (K1)
	Evidence-based policy making (F1)
	Reform (K2)
Environment (C2)	**Culture (IC1)**
	Senior Sponsorship (F2)
	Collaboration (K3)
	Events (F3)
	Inertia (IC2)
	Policy (K4)
	Politics (K5)
	Hierarchy/Bureaucracy (K6)
Means (C3)	Strategic Alignment (K7)
	KM Structure (F4)
	KM Universe (K8)
	Business Activity (F5)
Support (C4)	Technological Infrastructure (F6)
	Physical Infrastructure (F7)

KEY

C – Core category
IC – Intermediate category
K – KM condition
F – KM factor

Table 4.2: Core categories, Intermediate categories, KM factors and KM conditions

At the centre of the core categories is 'Expectation' which anchors the motivation and rationale for KM in the public sector. In essence, it is connected to the formation of the business need, value, strategy and objective for knowledge management as posited by (Kandadi, 2006). The 'Environment' core

category has two intermediate categories each of which holds a number of the identified KM factors and conditions. The ‘Culture’ dimension of the ‘Environment’ core category articulates the cultivation of knowledge culture to facilitate knowledge identification, creation sharing and utilisation. The second intermediate category of the ‘Environment’ core category is ‘Inertia’. The apparent negative connotation of this intermediate category exemplifies a distinct feature of public sector organisations, which if not check could throw a wedge into the spokes of the KM wheel. In fact, they can act as enablers or inhibitors (Abdullah and Date, 2009).

The third core category is designated as ‘Means’ to signify the processes or means by which the core business (or activity) of the organisation is leveraged through the KM practices as well as the KM implementation strategies. There is what can be termed KM enablers or aids; they are technological and physical infrastructure, which facilitate the KM processes. These supporting factors are constituted under the ‘Support’ core category to adequately delineate their role in KM.

It is amply demonstrated in the KM literature that KM initiatives are driven by the business needs of the organisation. The businesses goals (or strategic objectives) of public sector organisations, and in the broader sense the expectations of stakeholders, including the Government and citizenry, serve as the pivot upon which the KM agenda hangs and drives all other essential organisational dimensions.

This fact holds true for KM in public sector organisations as well as in their private counterparts. Following are sections that present and analyse these core categories and these constituent factors and conditions along the specified labels of concepts, context, characteristics, consequences, acquisition and absorption.

4.2.1 Expectation (C1)

Public sector organisations, unlike their private counterparts aim to fulfil a mission of providing social services. In particular they give strategic advice to the government to help administer the economy. The British Standards Institution makes the following observation in a research it conducted in 2004 to leverage knowledge management in the public sector: *Public servants and policy-makers do not need KM – they need to solve urgent, complex problems and contribute towards meeting the Government's and wider public sector key strategic goals, both in terms of policy and in terms of delivery. Unless Knowledge Management can be seen to be contributing to those key strategic goals, it is unlikely to receive senior management support* (BSI, 2005). The study proves this assertion. In most cases, the need to deploy KM to help address the challenge of meeting government's expectations has been externally determined; there were instances, though, where internal reviews of organisational knowledge behaviour vis-à-vis organisational mandate have prompted KM initiatives.

Substantiating codes (interview extracts) for this core category is presented in Table 4.3. The constituent factors under the 'Expectation' core category are discussed in the succeeding section.

EXPECTATION: Substantiating codes
Better KM is helping to address our corporate priorities e.g. through better quality information, more systematic use of research, evidence and evaluations and better digital engagement.
My organisation is a dispersed organisation across over 20 countries. There are poor telecoms links to some overseas offices.
Because of the change of government and there were new initiatives around Transparency, Collaboration, we reviewed our IM strategy and that identified that knowledge sharing had become a greater concern within the organization so the knowledge sharing plan evolved from that. The need to capture knowledge had become more of a concern to the organization: What activity was taking place, what research-based activities were taking place, what was the best way to bring some of those results together. Etc.
I think also, it is interesting, perhaps three, four, five years ago; there were numbers of high profile media stories where the [the organisation] was criticized for primarily not sharing information. And so that has led to quite a culture change about the need for people to work more closely together. But the fact that they

were not sharing it at all had caused some high profile issues. So actually they realized that we had got to find a way of working together and sharing information across our organisation.

We are now embedding lesson learned and adopting effective use of sound evidence and research.

The other area is more about learning, encouraging staff to learn. All staff have five days [a year] learning – it can be internal courses, external courses, going out to visit a site, it can be whatever. We have a very good availability of learning opportunity for our staff. That is because Learning and Development was one of the area we suffered badly under the Capability Review. The big challenge is that people don't have the time to do it.

Yes, you do, in part. Management decided they needed some KM when there was an external capability review. This is carried out by the Cabinet Office. Every few years the Cabinet Office conducts a review of all the core capabilities of central government departments. The first Capability Review was made a year before I joined the organization. And it highlighted that as an organisation we were creating knowledge and losing it or we are not using what we had within the organization. That is all because of the way the department was created. So I was hired. They already had a Head of Knowledge and Information Management who was to look after really the data storage. I was hired to look after, not intangible, but less defined side, behaviour side. So they [management] was convinced to buy into KM because when the Cabinet Office does a capability review and it give you a red mark in an area, the Permanent Secretary knows they have to do something…So that is how they were convinced.

This is a response to wider civil service changes that are taking place – the Civil Service Reform Plan. So there was the question of knowledge sharing supporting that initiative.

I think it is the external drivers that have really changed the atmosphere and appetite for knowledge sharing and working collaboratively.

When we started KM in 2009, we sought to work with the Projects & Programmes Unit and with the HR dept. The way of thing doing things in the Home Office is project based, so we thought it would be a good place to get knowledge sharing tools and techniques in to. Unfortunately both units were not receptive to our approaches. They seemed to see it as a threat to what they were doing. Today it is totally different. I think it is the external pressures – we have got less resource and we've got to be seen to be working more effectively.

In the Civil Service Reform Plan, which came out last July, there is a big emphasis on developing professions within the civil service, and developing them through continuing professional development.

The biggest incentive is the Civil Service Competency Framework, it has knowledge sharing and collaboration and the way we do things embedded in it. We are now assessed on both what we deliver and how we deliver our work.

I will put this down to the Civil Service Reform Plan because that is a key driver for us.

Table 4.3: Expectation core category – substantiating codes

4.2.1.1 Knowledge dispersion (K1)

Misra, et al. (2003) posit that four characteristics of government that have sought to drive knowledge management needs include: knowledge as an inimitable resource of the government, government as a distributed enterprise,

frequent transfer of knowledge workers across government departments and the need for 'anticipatory governments' which learn from past experience, understand the present scenario, anticipate future threats and opportunities. From the studied organisation, it was observed that the need for policy areas or functional areas to collaborate was a major catalyst for KM adoption. In one case organisation, the widespread 'siloed' operations of the different units attracted national censor. There was a media hype of their disparate activities and lack of knowledge sharing across the organisation. Table 4.4 provides substantiating codes to buttress the impact of scattered knowledge resources on formal knowledge management in the studied organisation. From an ethical and a legal point of view, there is the need for public sector organisations to achieve consistency in service delivery; in terms of the numerous requests they handle daily. With knowledge and expertise dispersed, it is obvious that public organisations are not able to meet this expectation.

KNOWLEDGE DISPERSION: Substantiating codes
Complexity is more of an issue than size. [The organisation] works from 2 UK headquarters, in London and East Kilbride, and from over 20 offices overseas. We had over 2,750 staff in 2012–13, over half of whom worked in developing countries. This makes it more difficult to ensure that knowledge is shared across different offices and between the UK and overseas offices. Sharing in person is often difficult and we need to support such sharing electronically.
Our Sharepoint is much siloed, a team can create their own Sharepoint and their knowledge ends up there. We created the Lessons Learned Database on Sharepoint, but that's still to be properly used. But there's a discussion forum and we try to encourage people to use that more. And there's the intranet and it's got lots of stuff on it. Particularly things like policies and procedures. That's where you find the process; where you find how we do a project, etc. We have got document management system but it's never really worked very well. Some teams will keep their stuff in Sharepoint and share-drives. And other teams will put stuff in the document management system. There was a big project bringing in a new system but it stopped…To be honest I don't know why it stopped. I think may be people didn't believe in it; I don't really know the facts about it but it stopped
[The organisation] was doing extremely good work but delivering it in a haphazard way; behind the scenes it was all confusion. So he wrote this report that really looked at the whole way we manage knowledge here and made some recommendations and that led into us having a whole [number] of knowledge managers, one in each directorate and appointing one as the head of KM
Our main challenge is that there is a high turnover of staff. A typical range D type of person (this is not the most senior person, most people are in the range D and they do policy work), the turnover in this range is higher than in McDonalds a year-and-a-half then they can move on to another policy area. The problem with that is that, after a year-and-a-half they know about the policy area as they become really effective, they move to somewhere else.
There was all this confusion in the organization because we weren't being methodical and systematic in

the way we worked. There was lack of a consistent filing system, document retention and where to find things. These were the main issues that we focused on
I suppose KM was happening but in a haphazard way and people were scouring around to find things, because people weren't using the corporate repository in a systematic way, "I've got to do something, I can find anything and so I am emailing out wildly to find the person who can help"
Yes, open plan but our physical infrastructure is a big problem. We are growing very fast and our office buildings are scattered – several places in London and Aberdeen. Our office infrastructure does not encourage contact between staff.
There were some form of KM activities, but they were siloed and adhoc. Some units were lot better at it than others. It was adhoc not formal, not systematic.
I think [KM] started when because predecessor organisation was closing down, there was recognition that there were awful lots of experience and knowledge potentially leaving the organisation.
There was the need to coordinate and capture knowledge before it left the organisation. Since the landscape was changing the need was to make knowledge accessible, try and label it and, to make it much more consistent, for officers to use. They needed to be assured of the quality of knowledge they were getting. That transformation programme gave the real impetus to try and manage knowledge held by [the organisation]. And this is what is kind of coming to college of policing, which is still formulating....
Our multiple-site [layout] is quite a challenge. We got an office in London, Brighton, Coventry, Harrogate and others. Having a multiple sites makes things difficult.
A lot of people left who had a lot of knowledge and that started to worry some parts of the business because they realized staff were going and taking their knowledge with them. So I think that contributed to convincing the business of the importance of knowledge sharing.
Because of the constraints of using external consultants and the fact that they do not impart the knowledge, we are in the process of training our own professionals, mostly in the areas of Finance and IT.

Table 4.4: Knowledge dispersion KM factor – substantiating codes

Concepts and context

Concepts from the corpus of data that underpin this condition include 'siloed' operations, disparate activities of policy groups, lack of knowledge sharing, absence of joined-up working and lack of opportunity to connect those who want to know with those who know. The study showed that in some cases, the policy groups or functional units in the department were relocated and re-assigned from other departments. This led to employees identifying more with their unit or group than with the whole department. Some departments have a tradition of employees working as independent groups of people. Thus, their expertise does not go beyond the group. In an environment where there is room for the adage 'knowledge is power' to brood, and where unlike their private sector counterpart, individual workers need the support of colleagues anywhere

in the organisation to meet set targets (and deadlines) in order to keep their job, such ‘cliques’ can become institutionalised.

The absence of direct competition in the public sector has been noted by Maddaloni (2002) as inimical to the creation of effective processes, including sharing of expertise and utilising skills.

Characteristics

Majority of the studied organisations have a wide range of policy groups or teams working in specific but related policy areas. Others have knowledge workers located in different office building or regions. All the policy groups work to contribute their quota in meeting government-designated mandate of the organisation. These policy groups generate and hold their own knowledge assets and in some cases there is a lack of joined up working between the teams. Without a mechanism to access relevant knowledge assets among policy groups, social and direct costs in terms of reinventing the wheel and failure to meet deadlines are inevitable. The need to unify knowledge, in the case of distributed organisations, and the need to facilitate knowledge access, in the case of the existence of disparate policy groups give a good business case for implementing knowledge management.

Some government departments are national in character and are required to ensure uniformity and consistency in their service delivery, in terms of advice and feedback to the citizenry. To meet this requirement and to ensure that information given out to clients is not out of date call for the adoption of strategies, measures and tactics that spread similar knowledge across borough councils and local governments.

Compared with other organisational needs that warrant the introduction of knowledge management techniques, knowledge dispersion is perhaps the most important factor (O’Leary, 1998; Fisher et al., 1998). Among the knowledge management strategies that can help to address the challenge of knowledge

dispersion are active collaboration between employees in the form of communities of practice (CoPs), facilitated learning in the form of After Action Reviews involving teams from other policy areas, and building and sharing knowledge assets with the aid of knowledge management systems.

Application to the Ghanaian KM Context

Prevalence: Most government departments in Ghana are distributed across the country with regional, and sometimes district offices, delivering social services to the citizenry. The empirical data collected unequivocally provide evidence of knowledge dispersion. Majority of respondents across the main case groups, public servants and public administrators, admitted that there is lack of uniformity in the interpretation and application of policy. It is common for regional offices to deal with a problem differently due to the lack of awareness of changes to or modification of existing policy. There is no doubt that regional offices in the capital, the seat of government, tend to have and be aware of current information or developments compared to their counterparts in the other regions of the country.

According to the research participants, there is absence of effective strategy or mechanism within government departments to ensure the dissemination and application of similar or unified knowledge across regional and district offices.

Promotion: A direct and explicit measure for addressing the challenge of knowledge dispersion in the Ghanaian public sector is the promotion of employee collaboration across and within regional and district offices. Aided by IT tools such as Sharepoint or an intranet, employees would have easy access to information on current policy directives and regulations to enhance their performance and service delivery to citizens. Knowledge management as an enterprise management technique aims to leverage organisational knowledge (in terms of access and use) and optimise business processes, especially knowledge intensive ones. With the requisite senior management support,

knowledge management will engender employee learning, collaboration and access to similar knowledge resources across departments.

Research Participant View

Yes, knowledge is dispersed in our public sector – same policies but different implementation.

I think knowledge is dispersed, but it also depends on the individual. If I am ready to learn and assimilate, I look for the relevant knowledge.

Knowledge in our organisation is dispersed. So we have what we call a float which is a monthly collection of correspondence in a file that is sent round for staff familiarise themselves with what goes on within the organisation.

4.2.1.2 Evidence-based Policy-making (F1)

Knowledge is a unique resource of the government; one that is inimitable given that effective government has much to do with effective acquisition and dissemination of relevant expertise and know how. Thus, in most cases, public sector organisations seek to attract highly qualified individuals to advance the course of public administration. The study revealed that public sector organisations in UK are subjected to period assessment of their performance through a 'Capability Review'. This review is an attempt to enforce or introduce pertinent managerial initiatives and standards to ensure that the work of government, in general and service delivery to the citizenry in particular are carried out more effectively and efficiently.

The UK Government, as part of modernising governance has adopted the concept of 'evidence-based policy'. Government thus expects more of policy makers. Policy makers are required to engage more with new ideas, demonstrate willingness to question the status quo, employ evidence and research in policy making and finally, focus on policies that will deliver long term goals. Solesbury (2001) notes that "And now that the agenda has moved on to a concern with policy delivery as much as with policy development, there is an

equal concern for practice to be informed by evidence. In Whitehall (and in Edinburgh, Cardiff and Belfast), in local authorities, quangos, the National Health Service, in voluntary agencies and professional associations there is a new thirst for knowledge. Research budgets are expanding, new analytical staff are being recruited, it is time for contract research and consultancy, good practice guidance fills websites, publications and workshop programmes.

Most of the studied organisations have embarked on formal knowledge management initiatives as a direct recommendation following the Capability Review. In most of the studied organisations, therefore, formal attempts to introduce techniques for managing enterprise knowledge are a more recent development. Substantiating codes for this factor are provided in Table 4.5.

EVIDENCE-BASE POLICY MAKING: Substantiating codes

New electronic resources aims to help staff share evidence, good practice, evaluations etc. and to encourage discussion.
We are putting down a system where once lessons have been recorded it goes to a central body, which is quite senior experts of the organization and assess whether they are useful and if it is, they take that lessons and change the existing guidance on how to carry out that particular process.
There are also relationship with think tanks, pressure bodies and groups like that. We have a research library function.
The [organisation's] high level aims of KM... which is that advice to Ministers should be informed by the collective expertise of the organization and every member of staff should be able to access all knowledge relevant to their work, past and present, internal and external, and to use this knowledge in their work. So, policy has to be evidence based. Policy changes must be supported by relevant data... there will be massive analysis; the distribution analysis will look at who will be the winners and losers, and the impact it will have on the different part of the population. So for each policy option there must be knowledge content, the information that underpins them, and eventually synthesis of the actual policy material.
First of all evidence tends to be recorded and stored in the document management system. We have knowledge/visual maps, which is well developed among the policy teams and the directory.
There is something called PQ (parliamentary questions) and we also submissions. Proposal to the Permanent Secretary will be backed by tangible evidence. Answers for PQ will be heavily researched and are kept strictly in libraries. Those become, if you like, little knowledge assets. The format for these submissions is very strict…
It is anticipated that there will be a kind of knowledge hub which is concerned with knowledge exchange, knowledge sharing, research, analysis and embedding sort of evidence base in all the elements of the organization and organizational learning.
It is sort of having evidence base for using and sharing and assuring knowledge so officers can use knowledge to the best – decision making, practice, etc.
You keep saying KM, it is more of knowledge sharing, and embedding an evidence base.

[Management] didn't need to be convinced to adopt KM techniques. As you know there was a lot of political drivers at the time there was reforms, there was [ ] reforms, where they wanted to include evidence-based [working].
You had some committees in government that wanted to introduce evidence-based policies to reduce and manage risk. [Our organisation] wanted to reduce cost by introducing cost effective spending. There were National Policing Leads, wanted to make sure policing decisions and policies were based on acceptable knowledge base. We have a lot of levers at the time. So management didn't need to be convinced to buy into KM
The researchers tap into professional networks including the government research networks and KIN (Knowledge Innovation Network), BPS (British Psychological Society).
A lot of the knowledge is done in partnerships. We do a lot of research, analysis, and a lot of synthesis, in our practice, procedure and our professional standards for development and training.
It is again embedded in our business operation. Developing good [work] practice based on the best available evidence. So that is one of our core aims.
We also try to embed standards based on evidence into our business processes. There are five labels (1 to 5) giving an idea as to how the knowledge object can be relied upon. Officers would have to be more cautious when using a knowledge product labelled '1' than when using that labelled '5', for instance. We do lots of work around labelling and quality assurance.
Government is pushing for evidence-based decision making. Public organizations have to do a lot more now with less resource. Government has come out clearly insisting that spending decisions are evidence based.
The Policy area does the Capability Reviews in the government departments. [The organisation] funds new research into international development that is made available to all through the R4D resource on GOV.UK. Innovation is also encouraged under the KIM Strategy through better sharing of experience and lessons, from outside as well as inside DFID. This helps lead to new approaches such as those supported by DFID's Innovation Unit

Table 4.5: Evidence-based policy making KM condition – substantiating codes

Concepts and context

Capability review, evidence-based policy, evidence-based decision making and evidence-based policing are some of the concepts highlighted in the empirical data. Informed by making research not just useful but usable and exploiting more fully existing data or existing research findings, backing policy with evidence, definitely requires access to a spectrum of knowledge assets. Adopting evidence-based policy as part of its philosophy of modernising government, the UK Government has a clear message of public sector organisations: "put your knowledge management act together". All across government departments, appeal to evidence in policy- and decision-making is rife. For instance, in an action plan (2010 – 2012) for improving knowledge use

in policing in the UK, the Police Service intended to embed findings from research-derived knowledge (evidence) into the curricula and content of its on-line learning programmes.

The use of evidence in policy development and delivery requires the recruitment of employees with the analytical prowess to research and to use research findings. Where it is expensive to attract such highly qualified staff, tailored KM activities can be pursued to encourage employee learning as well as provide access to external knowledge assets, as an alternative route for equipping public servants to source and apply evidence in their work.

Characteristics

As a requirement of the government and necessitated by cuts in funding to public sector organisation, evidence-base policy- and decision-making is fast becoming a driver for KM initiatives. Budgetary allocation to local authorities, government departments and quasi-government institutions have come under threat since the coalition government (UK) came to power a couple of years ago. In spite of this austere measure, services to the citizenry are also required to be efficient. Thus, to function effectively under reduced budgets and at the same time provide efficient services, public organisations in the UK are embracing KM strategies, measures and techniques to make more effective use of existing/internal expertise and access relevant knowledge bases. In one of the case organisations studied, private consultants had been laid off en-masse and permanent public servants required to fill in the gap.

As the government pushes for more evidence in the making and delivery of policy, knowledge-based policy- and decision-making will present major KM need among public organisations in the UK. It is expected that when public sector organisation begins to accurately reckon the role of knowledge management in meeting the lofty requirements of evidence-based policy development and delivery (at the operational level) and evidence-based decision-making (at the senior management level), more efforts will be made to

entrench KM tenets of knowledge creation, sharing and utilisation. Black (2001) has cautioned that researchers need a better understanding of the policy process and policy makers should become more involved in the conceptualisation and conduct of research, in any attempt to back policy or decision with evidence. Knowledge management, through its learning mechanism (organisational and individual) helps policy makers to become researchers in their respective policy areas for the effective application of evidence in policymaking.

Application to the Ghanaian KM Context

Prevalence: Until the early 2000s, evidence-based policy seems to be primarily a British commitment (Solesbury, 2001). Solesbury notes that the underlying generic issues of how research and policy can better relate is debated in other countries but the concept of evidence-based policy and practice has not entered into political discourse in other European or North American states. Ghana, like most African countries, may find this concept quite new and may not have incorporated evidence-based policy into its public administration.

A KM need based on this factor may be remote but policymakers in Ghana will be happy to engage with theory as they would agree with a portion of European Commission's White Paper on governance that recognise that: "...scientific and other experts play an increasingly significant role in preparing and monitoring decisions. From human and animal health to social legislation, the institutions rely on specialist expertise to anticipate and identify the nature of the problems and uncertainties that the Union faces, to take decisions and to ensure that risks can be explained clearly and simply to the public", (Solesbury, 2001).

Promotion: Consecutive research to this study will explore practical ways of using KM measures and tactics to source evidence for policy development and delivery. Facilitating a network of policymakers and relevant research institutes can be the starting point for reaching this convergence. Alternatively, findings from research-driven knowledge or evidence can be systematically integrated

into the curricula and content of well-designed on-line learning and scheduled-training programmes.

4.2.1.3 Reforms (K2)

An overarching driver for KM in public sector organisations in the UK is the Civil Service Reform Plan, a cross-government transformation programme that runs alongside the change activity initiated by individual departments. The ultimate aim of the reforms in the public service is to create a world-class, 21st Century Civil Service that is capable of supporting the wellbeing, security and prosperity of the country. Despite significant advances in public administration, UK still has too high a fiscal deficit to content with. This economic albatross calls for radical cost reduction and performance improvements in many parts of the civil service. There is support across the board for reforms and political parties and civil/public servants alike welcome the government's Reform Plan to improve working conditions of public sector workers, ensure better public service delivery and achieve better value for money.

A Public Sector Reform programme can be thought of as setting out and defining the business need and focus of the sector. Usually, the reforms attempt to reorient the sector and to reset lost priorities. Thus, public sector-wide reforms are an important source of KM intervention if seen as necessary for meeting some of the demands of the reforms. Substantiating codes for this factor are presented in Table 4.6 followed by detailed discussion of the condition.

REFORMS: Substantiating codes
The 2009 KIM Strategy was subject to wide consultation and agreed by the Management Board as supporting DFID in meeting its business objectives and cross Government requirements. It continues to support wider change agendas in DFID e.g. the Transparency and Open Data agendas, the Digital Strategy and the Civil Service Reform Plan. We have ongoing activities aimed at demonstrating the benefits to DFID from KM projects and activities in terms of increased value for money and achieving better results. Evidence is provided through measuring the outcomes of projects and through Case Studies, user stories

etc.
The new Civil Service Competency Framework may help to ensure that KM skills are measured and recognized.
No set time is allocated but the Civil Service Reform Plan states that all staff should have at least 5 days training each year and the Learning Strategy encourages continuous learning and development through coaching, shadowing etc.
We have an Information Strategy that is available from GOV.UK and this sets out the processes we operate to meet the cross Government Information Principles. Guidance is provided to staff through our Intranet e.g. on what constitutes a business record that should be saved to the Quest document and records system or key information that should be made available to others. Certain corporate information and data is captured as part of business processes e.g. through our correspondence management system.
[Knowledge sharing aptitude] is covered when recruiting for members of the professional cadres who have their own skills frameworks. The Civil Service Competences now in use when recruiting for all posts cover KIM skills under several specific areas e.g. collaborating and partnering, making decisions.
Our KM strategic objectives take into account the Transparency and open data policy, Records and Freedom of Information legislation, Digital strategy and Cross Government Information Principles and Civil Service Reform Plan.
Yes, [the Capability Review team from Cabinet Office] came to have a look before I was in this team. They looked at the organization as a whole and they were dealing with the [our umbrella organisation] at the time. They saw a problem and the problem was that although we would put computer systems into the organization over and over, and the same things were done over and over again. There wasn't enough learning from one to the next. And the organization was tasked with doing something about the problem. But I don't know the details…Because what we do is paid for by the taxpayers' money, we have to make sure there is full value for money.
In the changes that have been taking place in organizations, it has been talked about a lot more by senior leaders that people are becoming more aware of the fact that they are sharing and that it matters. They are not necessarily seeing it as knowledge management; sometime that is AWFUL.
Yes, there is around five days training for staff. I have benefitted from such training before.
We do competence-based interviews; which are horrible. And we've recently gone over to a new competency framework that is across the civil service. And I have to look this up. There are core behaviours that we measure people against. One is Leading and Communicating (you are expected to communicate very well and communicating with the right people). The other is Collaborating and Partnering and that is strongly related to the KM area. It requires working effectively, sharing information and building supportive relationship with colleagues and stakeholders. It also involves building capability as well.
We are governed by the Public Records Acts and Freedom of Information. So we have to leave a record of the work we do. We don't own the work we do, the public owns it, and it will be released to the public under the 20-year rule.
Yes, you do, in part. Management decided they needed some KM when there was an external capability review. This is carried out by the Cabinet Office. Every few years the Cabinet Office conducts a review of all the core capabilities of central government departments. The first Capability Review was made a year before I joined the organization. And it highlighted that as an organistion we were creating knowledge and losing it or we are not using what we had within the organization. That is all because of the way the department was created. So I was hired. They already had a Head of Knowledge and Information Management who was to look after really the data storage. I was hired to look after, not intangible, but less defined side, behaviour side. So they [management] was convinced to buy into KM because when the Cabinet Office does a capability review and it give you a red mark in an area, the Permanent Secretary knows they have to do something…So that is how they were convinced.
The other area is more about learning, encouraging staff to learn. All staff have five day [a year] learning – it can be internal courses, external courses, going out to visit a site, it can be whatever. We have a very good availability of learning opportunity for our staff. That is because Learning and Development was one of the area we suffered badly under the Capability Review. The big challenge is that people don't have the time to do it
The other thing that matters a lot is the Information Commission's Office. If you want to force people to manage document in a more disciplined way; manage documents, actually using a system, then the

arrangement where the Permanent Secretary gets his name mentioned on a public website as the responsible person [or the culprit], if there is a breach (for which the Information Commission's Office issues an order) is most effective…
There are various initiatives coming through from the Cabinet Office about being smart at sharing what have you…
It sort of fits with the government's reforms within the public sector to cut cost and increase efficiency.
They didn't need to be. As you know there was a lot of political drivers at the time there was reforms, there was [ ] reforms, ...
The Policy area does the Capability Reviews in the government departments.
In [our organisation], people have to take five days in a year for training and development purposes. It is across government; it is mandatory.
These reviews by the Cabinet Office are carried out by default. They are meant to help government department step up efficiency in their delivery. They are part of the Civil Service Reforms.
Because of the change of government and there were new initiatives around Transparency, Collaboration, we reviewed our IM strategy and that identified that knowledge sharing had become a greater concern within the organization so the knowledge sharing plan evolved from that. The need to capture knowledge had become more of a concern to the organization: What activity was taking place, what research-based activities were taking place, what was the best way to bring some of those results together. Etc.
The biggest incentive is the Civil Service Competency Framework, it has knowledge sharing and collaboration and the way we do things embedded in it. We are now assessed on both what we deliver and how we deliver our work.
We now have five-days-a-year for learning and development. So it is up to people to choose how they use those five days.
I will put this down to the Civil Service Reform Plan because that is a key driver for us.

Table 4.6: Reforms KM condition – substantiating codes

Concepts and context

Participants in this research did not mince words in pointing to the government's Civil Service Reform Plan as one huge intervention that sent government departments seeking to generate and apply knowledge as best as they could. Public sector organisations and agencies are facing huge budgetary cuts and at the same time required to delivery higher standards of services. Concepts from the collected data that substantiate this core category include civil service reforms, evidence-based policy, budgetary cuts, improved performance, civil service competency framework, and austerity.

Assuming office in 2010, the first coalition government in the UK, for many decades, made its intention very loud and clear – to reduce the country's debt

as much as possible. The high fiscal deficit, among other causes pointed to a public sector that needed some radical changes to save cost and to improve efficiency. Launched in 2012, the Reform Plan set out a series of specific, practical actions which, taken together and fully implemented can be expected to create a Civil Service fit for the future: faster, flatter, focused on outcomes not process, more accountable for delivery, more capable, more commercial, more digital, more effective in delivering projects and managing performance, more open, with modern terms and conditions, smaller and more unified. This was, and is, a vision endorsed and supported by all.

Characteristics

Specific commitments or milestones in the Civil Service Reform Plan include the Civil Service:

- Implementing new models to deliver public service
- Becoming digital by default
- Executing plans to share expert services across government
- Opening up the policy development processes to more external sources
- Ensuring staff have up-to-date policy skills and tools
- Improving corporate management information (MI)
- Establishing a Capabilities Plan to fill Government's skills gaps

These cardinal objectives of the Reform Plan no doubt require public sector agencies to manage their knowledge more effectively. For instance, ensuring staff have up-to-date policy skills and tools requires strategies and measures that consciously promote employee learning and systematically integrate tools and techniques that facilitate both individual and organisational learning. Creation of communities of practice and special interest groups are prerequisites for effective sharing of expertise across government. A Civil Service Competency Framework has been designed to support the

development of KM skill. The framework is also expected to help measure and recognise KM skills.

Being national in character and a major aspiration of the government, it is expected that the Civil Service Reform Plan along with the Civil Service Competency Framework will not only help to institutionalise KM but establish it as a stable or permanent competence within the sector.

In the document published by the Civil Service – Civil Service Reform Plan: One Year On Report, the Minister for the Cabinet and Head of the Civil Service make this admission, “But this report makes clear our joint assessment that too little of what was set out to be delivered by this point has been fully executed. This should not cloud the fact that we have made significant progress in some areas, both in the cross-governmental reform programme and individual departments. Neither should it be seen as a criticism of the thousands of civil servants who, day in and day out, dedicate themselves to serving the public and supporting the Government in its day-to-day work. It is, if anything, a criticism of ourselves as leaders. Following publication last summer, we were too slow to mobilise. In particular, we did not identify clear leadership or adequate resources for the actions. This has now been addressed and gives us confidence that the pace of delivery can increase. Despite the very best endeavours of many people, the delivery of the Reform Plan to date has been held back by some of the very things that it was designed to address – weaknesses in capability, lack of clear accountability, and delivery discipline. We have learnt the importance of moving forward as a unified Civil Service, and that there should be no hiding place for those failing to deliver”.

The unconcealed admission of leadership failure as a contributory factor in not meeting the targets set out in the Civil Service Reform Plan for the first year and the subsequent assurance of addressing this and other weaknesses to meet the goals of the Reform Plan is most welcoming. Until the government upholds the reforms and ensure that public sector organisations and agencies adhere to it tenets religiously, the Civil Service Reform Plan as a catalyst for embedding KM in the public sector will lose its thrust.

Application to the Ghanaian KM Context

Prevalence: Under the auspices of its development partners, Ghana embarked on reforms to streamline public administration and to introduce efficiency in public service delivery. Public Sector Reforms in Ghana began in the 1980s and many initiatives have since been introduced and implemented but the public sector is yet to fully realise the goals of the reforms. Broad objectives such as making public organisations more responsive to the needs of the private sector and building capacity in the sector to provide improved, timely and transparent services to the executive arm of government (as well as advisory support to Ministers and the Presidency) are yet to be achieved. In a study by Pratt and Ocran (2013), they found out that public servants are not enthused about the reforms and they see the intended changes an impediment to their work.

This attitude of public servants stems from the fact that they either do not understand the reforms or they do not agree with the changes. Lack of effective consultation with public servants and a top-down approach to the reforms can be blamed for the aberrant posture of this critical group who are to embrace and carry out the reform initiatives.

An initiative to promote the use of ICT, the National Information Communication Technology for Accelerated Development (ICT4AD) Policy document, launched in June 2003 is yet to deliver its goals. It is a policy document intended for the realisation of the vision to transform Ghana into an information-rich knowledge-based society and economy through the development, deployment and exploitation of ICTs within the economy and society. Policy priority areas including promoting ICT in Education, Modernizing Agriculture and Rapid ICT and Enabling Physical Infrastructure Development, have lagged behind. It is however encouraging that the country's electronic Governance (e-Gove) Project is on schedule. The e-Gov Project aims to modernise key government ministries, departments and agencies, computerise business registration, enhance revenue collection and provide citizen-friendly services. Full geographical rollout of the initiated is slated for April 2014. It is expected that

the e-Gov Project will introduce modern business tools into the organisations responsible for revenue mobilisation and business registration.

Ghana's Public Sector Reforms need a new lease of life, redefinition of priorities and commitment from politicians as well as public servants to succeed in re-engineering the public sector. This will also serve as a catalyst for any conscious efforts to manage knowledge and knowledge assets in the sector.

Promotion: Ghana's Public Sector Reform is heavily supported by international development partners and covers a wide range of policy areas. Reforms connected with the day-to-day administration of government ministries, departments and agencies, especially at the strategic and tactical levels should be given priority. As Senior Public Administrators and Directors appreciate and become ready to follow through with the reforms, the impact will cascade down to the operational levels and even extend to affiliate agencies and units. This approach could be a way of rebranding Ghana's Public Sector Reform and making politicians more relevant as far as the intended transformation is concerned.

Research Participant View

People are quite reluctant to change; that is one thing we need to note. People have found their comfort zones and they have closed their minds. They see that things are not really being done well but their minds won't take them there. People [public servants] find it difficult to change the framework in which they operate.

We are somewhere at the crossroads. There are two schools of thought, may be more out there. Some people say we are public administrators; that is what the civil people say. They have the rules and regulations and they say: "this is what we have to do", and they are satisfied to remain at that level – how to write Cabinet memo, how to write Board minutes, etc. It is time to professionalise the Civil Service.

4.2.2 Environment (C2)

As earlier defined, the 'Environment' core category encompass two complex intermediate categories – 'Culture' and 'Inertia' – which have far-reaching consequences for knowledge, both in public and private sector organisations. Organisational culture exists both at the level of ideas and behaviours. For this reason, an appropriate definition of organisational culture is the one posited by Huczynski and Buchanan (2001), '...the collection of relatively uniform and enduring values, beliefs, customs, traditions and practices that are shared by an organisation's members'. The KM literature is replete with statements, claims and propositions suggesting that, culture is one important factor that largely determines the success of knowledge management in organisations. According to Hislop (2009), many studies simply state the key role of culture in KM without any empirical substantiation, including du Plessis 2008; Milne 2007; Storey and Quintas 2001). In other studies, however, conceptual models of the relationship between organisational culture and knowledge management are developed but are not empirically evaluated (Cabrera and Cabrera, 2005; De Long and Fahey, 2000). Hislop concludes that only a small handfu of research present any empirical data on the topic (Alavi et al. 2005; Lam 2005; Nayir and Uzunçarsili, 2008; Pan and Scarborough, 1999)

Based on the broad definition of culture provided by Huczynski and Buchanan (2201), organisational culture includes elements such as the general management style (including change management), modes of communication, access to knowledge assets and degree of formality in carrying out routines. Closely linked to organisational culture is Human Resource (HR) policies and practices. For instance, the reward system, recruitment policy and allocation of time for employee collaboration could have an immense impact on employee attitude towards learning. Organisational culture can promote or inhibit knowledge management initiatives. Hislop (2009) identifies two factors which influence the attitudes of workers regarding their participation in organisational knowledge management activities; they are the relationship between workers

and management and the extent to which workers have a sense of group identity.

For this research, three organisational cultural factors that emerged as influencing public workers attitudes towards organisational-wide KM programmes included Senior Sponsorship, Collaboration and Events. A governmental level HR intervention that has the potential of improving knowledge culture within the public sector is the Civil Service Competency Framework, introduced to support the Civil Service Reform Plan. The framework outlines 10 competencies which are grouped into three clusters. Intended to provide a greater understanding and consistency about what is expected from individuals in the Civil Service, the framework will be used for recruitment, performance management and discussions and for decisions about progression.

Set out in Table 4.7 is the substantiating codes for the 'Culture' intermediate category. The related findings are presented from sections 4.3.2.1 to 4.3.2.3.

CULTURE: Substantiating codes
Changing culture takes time and it is still a work in progress. Our organisation wants to further leverage its knowledge to help deliver improved results from its programmes and in support of changes under the cross Government agendas described above. The new Civil Service Competency Framework also supports improved KM skills.
Changing behaviours takes time and we need to demonstrate the benefits to individuals as well as the organisation e.g. through case studies, stories around the benefits when offices are closing, people move on etc.
It's mixed, some teams will do it and some won't. It depends on the leaders of those teams; if they will do it then people will tend to do it. It's very much varied across the organization we work with how much knowledge sharing is valued and you can see that variation in the way they work. Since the launch of Knowledge Work, you can see a pattern, which teams were coming along to those meeting and what the leadership was in those teams.
Sometime I will write a case study of something good that happened and that goes into the company magazine, which is just an online thing. I think that's about the closest, some recognition. But no, no reward.
What encourages people is recognition. I heard a story about desk award [Knoco KM Consultancy]. There's an award that goes from one desk to another. It will be on one person's desk this month and people will ask what did you do? Then it goes to the next person the following month

It is not money, recognition is important but they need something more tangible, something to show that you are an expert or you have done something really well

I think that is what happened. The report went to the Executive Management Board, they agreed with the recommendations and the money was found to hire a Head of KM and then this set of five knowledge managers.

We do this whole thing about benchmarking; that is where we assess the teams and give awards and prizes. There are winners and losers all the time. This is an incentive because nobody wants to come in the bottom of the score; and we are quite 'brutal.

Time for KM is embedded in the way we work. Although a good knowledge champions do set time for knowledge management activities.

Well, I also thought about informal 'Thank you'. Directors are very good at this. Most Directors, the good ones, send a weekly email around saying 'this is the stuff that is going on, this is the stuff that I am looking at next week, thank you so-and-so for doing this or so-and-so produced a really good piece of work. And I know this is done informally.

So, when I go to do my benchmarking, the Second Permanent Secretary [our sponsor] will be announcing it to the senior staff. He is helping to create the right culture from the senior management down and I am working with the knowledge champions upwards.

That meeting happens on a Monday morning and the notes and guidance are cascaded down the organization; and it hit the Deputy Directors. Now those are the ones the set the culture for the team. So then I get them saying, we going to be benchmarking knowledge management, I want you to get involved. Then they will ask me what they can do now. So it puts power into the whole thing. It works really well.

KM workshop is more about philosophy of sharing to get people to think…yes, if this is how they are doing it, then I can do things this way. I can tell you a bit more about knowledge sharing workshops. We have who-knows-what workshops

Yes, we have staff awards, staff recognition schemes. This is not just for knowledge sharing; it is for whatever great achievement that is made. We don't have the regular knowledge award like some organizations do and publicize the best knowledge worker/sharer' for the month.

In the private sector, if you are not looking ahead to try to come up with a better one than they asked for someone will and you'll be out of job. Whereas in the public sector, it is the other way round, you don't try to exceed expectation; if you do that you might not deliver and…[you face the consequences].

It about behaviour, values, it is about culture change. No KIM team changes culture, it is leadership that changes culture. It is leadership that determines what the culture of an organization is. KM must make it comfortable to leadership to promote the KM agenda.

With knowledge sharing now part of the institutional agenda, the Head of Research, Analysis and Information is also part of those leading the initiative. They make sure quality is assured.

Yes, we have [a KM strategy] but not approved yet because there are a number of other initiatives that are going on at the same time. So it's not approved yet, sort of not rubber stamped, but it doesn't mean we are not doing it.

People are usually stuck to their offices. KM engenders collaboration; opportunities are created for people to meet each other and to share. The culture in [the organisation] is diverse.

We now collaborate across departments and share services and that has sort of changed the way of doing things for us. There is also a behavioural change, I think. We now share learning and training; it is across departments. Departments used to have their own training budget but now they don't.

Knowledge is exchanged through peer learning, seminars, after action reviews etc. We encourage sharing information.

So in brief we have retrospective reviews of projects after six months. Lessons learned are changed into recommendations and published as knowledge asset on the organisation's intranet. [i.e. Lessons learned are embedded into guidance/guidelines and thus, shared across the organization]. When the Director who hired me left the organisation, and already the Head of KM had gone, suddenly we didn't have a voice at the Board. Our report had to go through the Head of IT; but she doesn't get it at all and it is not important to her because she is rolling out [these systems] and she has all these pressures on her.

Table 4.7: Culture intermediate category – substantiating codes

'Inertia', the second sub-category under the 'Environment' core category encompasses three factors that potentially make public sector workers passive, indifferent and unwilling to change or to explore new ways of doing things. These factors embody conservative structures within which public administration must be or is usually carried out and represent distinct characterisation of the sector. Factors that define 'Inertia' sub-category are: Policy, Politics and Hierarchy/Bureaucracy. While it is not within the scope of this research to trace the origins of these phenomena, their presence within public administration, in both developed and developing economies, no doubt set them up as key factors distinguishing public sector organisations from their private counterparts. These factors make public sector organisations assume the form of a monolithic entity, resistant to change and laden with political struggles. They easily become tools in the hands of ranking officers for settling scores and for demonstrating, sometimes in the most forceful way, a senior officer's self-importance, regardless of consequence to the organisation.

Fuelled by the bureaucratic structure and policy-laden relations, and encouraged by the largely non-profit-making aims of public sector organisations, senior public workers usually wield so much power and can interfere unnecessarily with organisational initiatives and processes, including those of knowledge management. Some of the public sector reform initiatives aimed at modernising government have the potential of controlling the impact of these KM 'Inertia' factors, especially in developing countries.

The substantiating codes for the 'Inertia' intermediate category are presented in Table 4.8 while section 4.3.2.4 explains these inertia factors and provides details of the related findings.

INERTIA: Substantiating codes
I am thinking back to when I worked in Ernst and Young. I don't know who was representing us at the senior level. KM was very much a part of how the business works, how we are profitable; KM underpins that. In fact, the pressure even came from the staff. I would be sitting on my desk and someone would say have we got an example in the Aerospace Industry of a Risk and Control Matrix? So I will search and go to the project managers and ask whether somebody has done a Risk and Control Matrix in the Aerospace Industry? The whole culture was, 'if we have done it before, I don't need to start from the scratch'; I should have an example. Whereas we don't quite have that culture here. And that was ingrained in Ernst and Young. I need to deliver it quickly. If I want to deliver it in three hours, I need an example; otherwise it is going to take me three days. So, the ownership of KM was really within the organization. And that is what I think is the difference. In the public sector for something to happen, someone who is senior and respected must say this is really good for us. I actually find it disappointing that it has to be done through the hierarchy. I have much more power and agility to deliver in an organization where I didn't need that. I find the public sector limiting. We cannot compel people to do some KM activities. It's because they are seen as processing and bureaucratic. …someone complained and it got back to the person who hired me and he fed it back to my line manager that that was not the way to do things. So asking, telling, doesn't work [here unlike in private firms]. In the private sector, if you are not looking ahead to try to come up with a better one than they asked for someone will and you'll be out of job. Whereas in the public sector, it is the other way round, you don't try to exceed expectation; if you do that you might not deliver and [may be 'punished']. We do have a strong culture of saving our work as soon as it is done. We have a legal obligation to save and the staff understand that. We are in silos [pigeon holes]. One of the big challenges in government is that, units are encouraged to work across the organization but units are also to be mobile [and compact] so that when there is a change in government or changes in the organization, each unit can be moved. I think that is a challenge across the whole government. Thus, because units must be ready for government machinery it creates some barriers between units/teams. Somewhere it's a bit like a professional partnership where a group of lawyers sit under the same roof for mutual convenience but actual conducts their own local businesses. I am not saying that is extreme here but there is a degree of that - 25 directorates, and probably 25 sub-cultures. So, therefore, trying to change behaviour of 25 different.. is quite challenging. If you walk round the building you will see signs highlighting the some Divisional offices. What they tell you symbolically is that people see themselves as… first I am in this team and second I am part of [the organisation]. It is something you have to recognize and you have to work out what you can do to change interactions. I think that is a challenge across the whole government. Thus, because units must be ready for government machinery it creates some barriers between units/teams Our organisation is hierarchical and that is probably our biggest challenge – dealing with the top-bottom approach to things. Some Departments have highly developed KM initiatives endorsed at the top. So I suppose it was all about enforcing processes and procedures. So I guess the main thing from the Troup Report was people have got to use the corporate repository; and to drive that, what we started doing was looking at the usage statistics and circulating that every month. We used to have a lot of consultants. We had to stop doing that because it was expensive. So we had a period of time when we were losing lots and lots of consultants. I was asked to do a knowledge interview to capture knowledge and a lot of those people would not do the interviews because they were like 'my knowledge is my business.' But the permanent staff tended to see their knowledge more as part of the organization.

Table 4.8: Inertia intermediate category – substantiating codes

4.2.2.1 Senior Sponsorship (F2)

The critical role of Senior Sponsorship in public sector KM reverberated throughout participants' responses. In the private sector setting where money and profitability is the bottom line, workers see KM as a vehicle for improving their repertoire of skills to remain relevant to the organisation, the absence of which could cost them their jobs. Public sector organisations do not have that burden; the bottom line is just doing your job. Complicated by bureaucracy and strict adherence to hierarchical relations, it is usually enough for a public sector worker to come in, just remain in his or her corner and do what he has to do undisturbed and go home quietly after office hours. Again, the absence of a direct competition does not motivate public sector organisations to create more efficient processes and to use available skills (Maddaloni, *cited in Abdullah and Date 2009*).

A singular intervention that goes a long way to marshal public workers to become active participants in any organisation-wide or smaller programme or project is Senior Sponsorship. According to the study, an activity or a programme enjoys Senior Sponsorship, when top management is in agreement and a senior management member is assigned to spearhead that activity or programme. This way, that activity or programmes secures a voice in the Boardroom and, thus, assumes an elevated status as a 'recognised action' by the organisation. With this recognition comes all the facilities – support, flexibility, time allocation and empowerment – that the activity or programme in question would require to execute its aims and aspirations. Senior leaders of the rank of a Director or Deputy Permanent Secretary, who are only a step or two from the top, were identified as senior sponsors in some of the studied organisations. The substantiating codes for this cultural factor are presented in Table 4.9 followed by the related findings.

SENIOR SPONSORSHIP: Substantiating codes
We have a very good availability of learning opportunity for our staff. That is because Learning and Development was one of the area we suffered badly under the Capability Review. The big challenge is that people don't have the time to do it. Our projects to improve KM in [our organisation] are funded from the organisation's capital and admin budgets.
Rewards are more around recognition e.g. through the performance management system.
No set time is allocated but the Civil Service Reform Plan states that all staff should have at least 5 days training each year and the Learning Strategy encourages continuous learning and development through coaching, shadowing, etc.
Resources are needed for change management, coaching and training and these are now more limited than in the past.
We have measured and demonstrated cashable and non-cashable benefits from our KIM programme through agreed outcome indicators. It is more difficult to do so for change initiatives than for projects to implement new systems. We also measure progress against a KIM maturity model.
I am not sure management is convinced yet. In the minute, we are doing something quite across the whole organization. So KM team we are trying to prove…we have to demonstrate that it is adding value…I think some senior management haven't seen the value until recently.
So the lessons learned are easily embedded as the guidance is changed to reflect the new knowledge. In that case nobody actually needed to go and look up anything on the intranet. The next we need to think about is how to measure whether people are using the guidance.
Financially no [rewards exist], definitely not. Because being a public sector organization it wouldn't be seen as good usage of public money. It used to be in our annual review. We managed to get it put in there. But nobody actually... we didn't get any evidence, so it didn't work. We didn't get into a part of the review that was taken seriously. It just ended up in the wrong place. So no real incentives [exist].
There was a big project bringing in a new system but it stopped…To be honest I don't know why it stopped. I think may be people didn't believe in it; I don't really know the facts about it but it stopped.
No, we've never had that. In the past there was training budget so in your annual review you could discuss with you manager what training you needed. And all the financial problems in this country happened and the training budget was pulled.
in the last two or three year there's been virtually no training budget. Now we got a training budget but it's so small…a certain amount per person but it's not enough.
We could [access the mandatory five-days per year training across the civil service]. What has been happening is the bosses saying this is what we want to achieve and it will come down that way. If we can prove that what we want to do will bring some gains then we will get it. If we say we want everybody spending five days doing learning, they will say: 'why, what are we going to get from it and how much is that going to save the organisation? We can't quantify that so it's never going to happen.
They do question the KM initiative. But you need it from the top. If you haven't got support from the top, people at the bottom can say I'll do it and somewhere in the middle they stop. Yes, you need the top to say we are going to do it. Whenever it has not worked there is lack of senior sponsorship, whenever it has worked that [senior sponsorship] has been there.
Let me give you an example. You know this discussion boards I mentioned, apart from a small core group of people who are very vocal, nobody was using the discussion board. They knew if you put something there it wouldn't disappear unlike when you talk, what we say disappears quickly; so people weren't using it. So I encouraged the senior leaders to do blogging on their site. Once they started blogging people saw that, they started saying, 'So it's safe'. So people started joining in those discussions. If the senior leads are doing it then it works, if they stop, everyone stops too.
In the changes that have been taking place in organizations, it has been talked about a lot more by senior leaders that people are becoming more aware of the fact that they are sharing and that it matters. They

are not necessarily seeing it as knowledge management; sometime that is AWFUL.
The one single biggest key to KM success is senior sponsorship. If you haven't got buy in from the top, put your money somewhere else; And serious support not [lip service].
There was a report written called the Troup Report in January 2006. And this was the report that kind of kicked off proper knowledge management here in our organisation.
There was a director here called [ ]. [He] did become a manager and director and he was a very influential person here [in the organisation]. He's now moved to [another Government Department] and he is the second Permanent Secretary. His background was law; he came from a law firm and his feeling was that [the organisation] was doing extremely good work but delivering it in a haphazard way; behind the scenes it was all confusion. So he wrote this report that really looked at the whole way we manage knowledge here and made some recommendations and that led to us having a whole [number] of knowledge managers, one in each directorate and appointing one as the head of KM.
KM is sponsored by the Second Permanent Secretary so he will come along to present prizes and awards to deserving teams. The champions will get a little shield to take to their teams.
We have a senior KM sponsor who is the Second Permanent Secretary (2nd in Command here) and he has been assigned to KM quite recently, about 2-3 months ago; and he has been great. He came to one of my knowledge champion meetings and spoke about why he thinks it is relevant to the organization, how he wants to support it, etc.
And what I find is that, in the intervening couple of years I found it hard to do knowledge management because all the leaders had to be prompted. So with this new guy, I am pleased with what he is doing; he clearly understands it and can communicate it. He is a respected person.
And that is what I think is the difference. In the public sector for something to happen, someone who is senior and respected must say this is really good for us. I actually find it disappointing that it has to be done through the hierarchy.
If you are in an organization that is fully-fledged ministerial department, you are about six or seven places from the top. So getting your message heard across the organization is extremely difficult.
So, though those tricks work, if you can get the senior leader to endorse it but the trouble is there is only one senior leader and everybody wants him to endorse one initiative or the other.
One problem that we have had in the area of directory is that senior people won't complete their profiles [they appear not to care]. So we tell the junior people, including the middle managers to complete and they look and see that their bosses' profiles are empty…and so they will not provide theirs.
I talked to the Permanent Secretary's Personal Assistant when he had to make some changes to his profile. I told him to please do whatever he could to make the Director General complete their profiles. And it made the difference; As soon as people saw the faces and descriptions of their Directors, everyone rushed to complete his/her profile.
We have Directors who are very keen on this. They are happy to encourage team to have time for sharing.
That is why if an organization wants to become one in which routinely sharing and openness and willingness to ask becomes normal, it has to be reflected in the espoused values of the senior people. If it is not you have to recognize it is like galloping in a soft soil – You cannot tell the horse "go, go"; you have to work on that soil.
You need the top-down and they genuinely have to walk the talk, to give the money, to give the time and the infrastructure to support it. But you also need the bottom-up and you need to engage with people that are actually going to be doing it
The KM programme must be endorsed by the Head of Department; then everyone jumps in. We have not been able to move forward as much as we want to because we don't have a senior owner.
Management sponsorship and behaviours. If the top shows commitment the whole KM programme will have a positive outlook.
There must be a senior sponsor who participates in some of the events to give pep talk and encourage the general staff.

Table 4.9: Senior sponsorship KM factor – substantiating codes

Concepts and context

Knowledge management and all other organisational activities require management buy-in to be effective and to succeed. A strong support from organisational leadership empowers the employees who are involved with any given project. Concepts that describe this factor include sponsorship, leadership, top management, leadership buy-in and support.

From the study, a KM programme can secure Senior Sponsorship if a senior leader or a management member initiates it. Arising from such quarters presuppose thorough discussions among management staff to win their support before the programme takes off. The findings also revealed that there is automatic Senior Sponsorship if the KM programmes emerge off the back of recommendations from a Capability Review. The Permanent Secretary has no choice if such a review gives him or her red mark. Where the KM programme owed its origins to a Capability Review, management did not need to be convinced by the section of employees who are 'KM-ready'.

Characteristics

With Senior Sponsorship, the KM programme becomes one of the priorities of the organisation. The Senior Sponsor brings management members down to participate in the KM activities while the KM leader (or Knowledge Manager) brings the general staff up to appreciate the impact improved knowledge culture could have on their delivery. With management and staff actively engaged in knowledge creation, sharing and re-use, momentum is generated in the programme through the provision of flexibility and empowerment. Staff members' 'psychological contract' with the organisation will read, "My boss is doing it, why am I not doing it?" Some of the conservative rituals within public sector organisations disappear when a Senior Sponsor is in charge of an initiative. A Senior Sponsor is able to win the commitment of employees to the KM programme more easily. Being part of top management, a Senior Sponsor could more readily secure concessions that will promote knowledge culture

such as allocating time for employees to collaborate, to share insights and for knowledge events and recognise and reward knowledge activities.

Conversely, the KM programme suffers if there is no buy-in from management, either overtly or covertly. Without a Senior Sponsor, the KM programme will become a failure for the following reasons:

- Middle managers will frustrate the programme by discouraging KM activities
- Infrastructural support (IT systems and platforms) may not be provided readily and willingly
- Integration of best practices learned may be resisted at all levels
- KM may be viewed as 'additional work'
- Participants may feel less empowered to commit fully to the programme
- Non-participatory attitudes of senior leader will serve as a disincentive to staff
- Collaboration among teams from different policy groups or functional areas may not be possible.

A key finding of the study is that Senior Sponsorship is more critical for KM success in the public sector organisations than in their private counterparts.

Senior Sponsorship for public sector KM can be won internally or externally. Knowledge management enthusiasts will be privileged if a senior leader(s) in the organisation finds their KM proposal worth pursuing and is prepared to convince management to buy in. Usually, a comprehensive proposal comprising a KM vision, mission, strategy and action, along with expected outcomes, presented in a practical way, will most likely convince management. Once the KM aims are aligned with the strategic objectives of the organisation, convincing senior management becomes a less difficult task.

The dynamics are different if senior management itself perceives KM as a strategy for addressing some challenges unearthed by a government review or for meeting a wider public sector reform agenda of the government. In either

case, Senior Sponsorship is automatic and conscientious. In the UK, the Civil Service Reform Plan and the Civil Service Competency Framework have not only spawned KM but also set KM programmes in the hands Senior Members of management.

Application to the Ghanaian KM Context

Acquisition: Operating on meagre budgets and riddled with bureaucracy and politics, securing Senior Sponsorship for public sector KM will be a huge hurdle in Ghana. This state of affairs is exacerbated by the fact that Knowledge Management as an organisational strategy is not well known in the sector. The study clearly revealed that, introducing KM as a mechanism for managing enterprise is likely to face resistance from public sector workers. Resistance from management may arise due to limited budget. In both cases, the study shows that the following strategies, measures, techniques and tactics can be adopted to highlight the role of Senior Sponsorship in any successful KM programme for the sector:

- Sensitization of staff
- Sensitization of Middle Management
- Sensitization of Senior Management
- Involvement of Development Partners
- Assurance of cost-effective or nil-cost KM activities and technologies
- Possibility of securing financial support from government chest for capacity building
- Projection of potential benefits of the KM programme

Absorption: The UK is far from reaching the threshold where Senior Sponsors for KM in public sector organisations is a matter of course. Despite the spectacular demands of the Civil Service Reform Plan and the Civil Service

Competency Framework, securing Senior Sponsorship from the right grade or rank will continue to be a challenge in some public sector organisations in the UK. Ghana has a long way to go to make Senior Sponsorship for KM a stable consideration in her public sector organisations. Given the limited awareness of the field, components of Ghana's Public Sector Reform that emphasis specific competencies that public servants should have must be projected in light of how KM can help their acquisition or cultivation.

Public servants and administrators in Ghana who might be interested in embarking on a KM initiative must seek to align their KM aims with those of their respective organisations and relevant aspects of Ghana's Public Sector Reform agenda. So crafted, and expected deliverables from the KM programme clearly outlined, the role of Senior Sponsor for KM would sooner than later be an accepted 'norm' in the organisations concerned.

Research Participant View

I think more education and more awareness at the political appointment level will help [senior managers in our public sector to be knowledge conscious].

I know there are programmes by the Public Services Commission and GIMPA to provide some orientation for ministers and MPs to have in-depth understanding of the civil service in particular and the public sector as a whole, before they assume positions. But there is need to do more.

[Top managers in our public sector] are not only to know how the public sector works but what to expect from their staff as well.

Public Administrators are knowledge conscious to a reasonable extent, but the public culture is not supportive and politics has permeated every fabric of public administration hence knowledge preservation for continuity or change management is either non-existent or unavailable. We archival practices have also worked against knowledge exploitation.

4.2.2.2 Collaboration (K3)

The creation and development of collaborative teams across policy areas or functional areas emerged as a major activity that promotes knowledge culture in

the organisations studied. Sometimes extending to collaboration with workers from other government departments and even from private organisations, teams interact to share ideas and expertise and to work on some work-related activity in common. These teams (or policy team, as referred to in some organisations) are characteristically different from the concept of 'communities of practice' as discussed in the KM literature. Some of the team members are engaged in these communities of practice, which are groups of individuals, and workers who have some form of practice in common. While communities of practice may evolve naturally out of the communication and interaction among people with a common interest and are usually informal, the teams (policy teams) or work groups are part of the formal organisational structure with specified objective. In the studied organisations, work teams and communities of practice are helping it improve knowledge culture.

Table 4.10 presents the difference between a community of practice and formal work groups. It is deducible that skills and knowledge acquired by team members in their respective communities of practice make positive impact on their effectiveness in their teams' activities.

	Community of practice	Organisational work group/team
Objective	• Evolving • Shaped by common values • Internally negotiated	• Clear, formally defined • Externally determined
Focus of efforts	• Collective practice/ knowledge	• Provide specific service and/or product
Membership	• Voluntary	• Typically formalised and delegated (occasionally voluntary)

Government of internal structure	• Consensually negotiated • Non hierarchical	• Formalised division of labour • Hierarchical structure • Individualised roles and responsibilities
External systems of Management and control	• Self-managing • Informal, inter-personal relations	• Formalised relations defined by organisational hierarchy • Performance monitoring against specific targets/goals
Time frame	• Indefinite, internally negotiated	• Permanent or with finite time frame/objective

Table 4.10: Difference between a community of practice and formal work groups/teams

Table 4.11 outlines the substantiating codes from the corpus of data that support this condition while the sections following summarise the findings.

COLLABORATION: Substantiating codes
We aim to develop more effective collaboration within [the organisation] and in work with our Whitehall and international partners.
Our face to face communications include: seminars, conferences, AwayDays, after action reviews, peer learning, and use of discussion spaces provided in [our] buildings.
Complexity is more of an issue than size. DFID works from 2 UK headquarters, in London and East Kilbride, and from over 20 offices overseas. We had over 2,750 staff in 2012–13, over half of whom worked in developing countries. This makes it more difficult to ensure that knowledge is shared across different offices and between the UK and overseas offices. Sharing in person is often difficult and we need to support such sharing electronically.
The Learning and Development team support groups of staff meeting for peer reviews, after action reviews and reflective learning. I also run Knowledge Café events looking at specific issues as part of a KIM community of practice
We encourage sharing information at handover and induction of new staff. We aim to encourage discussion around activities that have delivered less well than expected.
We also have a lot of networks and they are cross-cutting, cover all the policy areas. Examples are the Tax Compliance Network; Economics Network. All of these are bringing people from across the organisation together. There is a massive range of seminars.
So I would say there are a lot of talking, sharing and working together. And we've got this process…policy partnerships.
From our delivery arms (particularly, [ ]) we get massive uploads of data. They send us CDs, and we get their reports and expertise. We also have strong links with academia. Policy people have relationships with university and academics and they use that a lot.

They do collaborate, they do have to collaborate. There will be a number of project teams for a particular change initiative. But a lot of time they collaborate in a slightly contrived way in that you will invite speakers from one team to go a talk to another team about what they are doing. So, it may be about creating…..But I won't say it is really grand there are still lots of walls out there.
There are several [external forms of collaboration] by the policy teams. But I can tell you, the KIM team we do a lot. I go to talk to other departments because I want to go and find out what they are doing.
Right; some of them are very simple. We have a People Directory, where you could find people based on people's experience and what they do – containing number, name, etc. That is key, because most of the knowledge of the people we cannot document it so… We have a lot of specialists, a lot - geologists, climate change experts, engineers, and other specialists, you name them. And very often the knowledge is there so what we are trying to do is to connect people with the knowledge.
We do try to create new knowledge by cross-fertilization within [the organisation]. We get teams to talk about projects to each other. But generally the quick solution is to bring in a specialist from outside of DECC.
We do; we have a number of groups with common interests.
The network of information managers is a typical example of a group who wants to get something done, who wants to share knowledge. People turned up during lunch time and they don't get seats but they are eager to hear what the others have got to say.
KM workshops are intended to prompt people to say, "yes, I can do this; oh, I can do that". So what we get are initiatives we don't get knowledge assets emanating from those workshops. We get people to be a bit more curious than they were before.
KM workshop is more about philosophy of sharing to get people to think…"yes, if this is how they are doing it, then I can do things this way". I can tell you a bit more about knowledge sharing workshops. We have who-knows-what workshops.
A policy team can ask another to peer-assist or ask how they overcame a particular problem, or ask to facilitate an After-action Review.
There are about 400 CoPs across [the organisation nationwide]; some hidden, some open, some private.
[Our system enables] people to be able to find resources much quicker and have the ability to share experiences and thoughts, opinions a lot more.
Our multiple-site [layout] is quite a challenge. We have got an office in London, Brighton, Coventry, Harrogate and others. Having a multiple sites makes things difficult.
The real focus is what our [KM] unit is doing – establishing collaborative partnerships with the academic communities, universities and funding bodies. There is awful lot of academic partnerships.
A lot of the knowledge is done in partnerships. We do a lot of research, analysis, and a lot of synthesis, in our practice, procedure and our professional standards for development and training.
We are very collaborative. We very much support each other regardless of role, rank, etc.
Our Test and Design & Consultancy Services has created "job families" to help employees socialize, share best practice and interact.
We do share knowledge with external organisations. There is a cross-government site called Civil Pages.
KM has brought a strong collaborative working relationship within our internal departments... we manage information where it is clearly crosscutting. This has avoided duplication and enabled us to re-use knowledge where appropriate.
Yes we do. We do use consultants to fill skills gap. We also belong to the Henley KM Forum, which has an online learning resource. Henley holds three events in the year.

Table 4.11: Collaboration KM factor – substantiating codes

Concepts and context

The concept of communities of practice is very popular in the KM literature. Nearly as popular as Nonaka's theory of knowledge conversion, the communities of practice literature is most closely associated with the practice-based perspective on knowledge as it assumes that the knowledge people have is embedded in and inseparable from the (collective base) activities that people carry out (Hislop, 2009). Facilitating interpersonal knowledge sharing and strengthening innovation processes in organisations, communities of practice have been identified as key to the success of knowledge management programmes (Bate and Roberts 2002; Ward 2000; Wenger 1998; Wenger et al. 2002). Though quite different from communities of practice (see Table 4.10 above), the study showed that Knowledge Managers in the studied organisations are helping the policy teams to adopt those features of communities of practice that make them effective vehicle for sharing knowledge. Concepts that support this factor include policy teams, knowledge champions, policy groups, etc.

In the organisations studied, the work groups are part of the formal structure of the organisation with clear and formally defined objectives. Their deliverables are never in doubt and can be reckoned formal division of labour within the organisations. Yet, because their schedules in the organisation are related, Knowledge Managers facilitate their collaboration. This inter-work group collaboration, as well as communities of practice, has become a technique for advancing KM in the public sector.

Characteristics

As described in Table 4.10, work teams form part of the organisational structure with set goals and required to deliver specific service or product. Their relevance to KM can be said to be similar to communities of practice as Knowledge Managers are encouraging sharing of knowledge and insights across teams in the organisations. Members from different teams are often

invited to After Action and Retrospective Reviews where activities and projects of work teams are evaluated and lessons learned recorded. In one organisation, leaders from other teams are invited to share their experiences during team meetings. Other cross-team knowledge activities include Peer Assist.

Being informal and self-regulating, communities of practice are not under the care of Knowledge Managers. Knowledge Managers encourage employees to form and actively participate in communities of practice.

Collaboration between work groups and participation in communities of practice can be effectively encouraged through Senior Sponsorship. Where the organisational structure recognises work teams, activities of the teams can be leveraged through a visible evangelisation of the benefits of team collaboration by top management. With the required time allocated for knowledge activities and schemes put in place to measure and recognise knowledge creation and sharing competencies, teams would be more than willing to interact and share for their individual and collective interests.

On the other hand, the Knowledge Manager or the KM team can encourage workers to form communities of practice. In view of their autonomous and self-regulating character, communities of practice across an organisation can thrive without explicit support from top leadership. The current KM literature suggests that management should not play a role in initiating communities of practice but should facilitate their activities in a way that does not detract from their fundamental character. In other words, management interventions in communities of practice should have the aim of enhancing their capacity to support knowledge culture in the organisation. According to McDermott (1999) management of communities of practice should be done with a 'light touch', implying that organisations should develop natural knowledge communities without formalizing them. Using a garden metaphor, Ward (2000) suggests that communities of practice should be tended and nurtured rather than commanded and controlled. This garden metaphor accurately conceptualises the informal and emergent posture of communities of practice.

Application to the Ghanaian KM Context

Acquisition: In Ghana, public sector organisations have departments and units that perform designated functions and they form part of the organisational structure. Some of these departments and units may have teams or work groups formed to carry out specific tasks. Collaboration between teams in the same department or across departments is rare. There is lack of joined-up working within government department and the study amply depicts this challenge. Through a Senior Sponsor for KM, collaboration between teams and joined-up working can be introduced and cultivated. Through evangelisation on the benefits of sharing ideas and experiences, championed by the Senior Sponsor, teams can be educated and encouraged to collaborate at different levels. Workers can also be encouraged to form communities of practice to develop and utilise their knowledge through the collective identity and social context that such informal setting provides.

It is not going to be a simple task for Senior Sponsors and KM advocates to rally teams for After Action Reviews and Team meetings, for instance, as the concept of work teams is not well developed in most public sector organisations. Effective sensitization of workers, Middle and Top Management could have the potential of breaking down barriers and winning their commitment.

Absorption: A conscientious effort to create and develop work teams across Ministries, Departments and Agencies (MDAs) in Ghana may not necessarily require legislation. Convinced of the benefits to the organisation, Top Management would readily endorse such an adjustment to the organisational structure. Adopting and incorporating the concept of work teams and encouraging and supporting the creation of communities of practice across departments will send the clearest signal that the organisations are committed to promoting individual and organisational learning through collaboration.

Additionally, recognition of team efforts and accomplishments through commendation or rewards will strengthen team spirit and heighten workers'

desire to belong to and work in teams. Working in and across teams will minimise knowledge hoarding, improve interpersonal relationship and enhance collective identity.

Research Participant View

[Collaboration within the Ghanaian public sector can be enhance] by encouraging team work and instituting appropriate incentives like reward-based performance, reducing bureaucracy, introducing more system controls with minimal manual interference.

There is lace of collaboration among staff. The use of project teams must be encouraged.

A disincentive in our set up is that acquiring higher skills does not go with appropriate reward in terms of being assigned more challenging tasks. In some cases, people go to learn new skills to address a particular need of the organisation and they are told; "We can't do this here".

4.2.2.3 Events (F3)

Knowledge management events across the studied organisations have been a morale booster. Organisation-wide and work group events promote interaction among employees and usually present opportunities for workers to share their experiences with and to learn from experts from outside the organisations. Where employees work from multiple sites, KM events bring them together and this enhances knowledge sharing and employee connectivity. Table 4.12 provides the substantiating codes for 'Events'. This is followed by summary of the findings regarding the factor.

EVENTS: Substantiating codes
Staff access new knowledge through membership of networks and communities
The Learning and Development team support groups of staff meeting for peer reviews, after action reviews and reflective learning. I also run Knowledge Café events looking at specific issues as part of a KIM community of practice.
There's a number of different way but the main way has been that at the end of every [ ], we have retrospective reviews and I facilitate that and change that learning to recommendations and publish that as knowledge assets on the intranet. Sometimes people didn't know that there are knowledge assets or they

were not bothered to search for them.
In the past, new knowledge has emerged probably the best that I am aware of, through the retrospective reviews and peer assist sessions.
This is our strategy on postcard. These are the key things we do. Facilitated workshops [Before Action Review, Peer Assist, After Action Review, Retrospective Review]; Collaboration - we'll encourage people to join communities of practice and use them and then building Knowledge Assets. There is knowledge harvesting as well. This is, one to one interviews or sometimes it was with audience, we would have audience in the room.
Teams meet regularly and that is where they talk about what they are doing and share knowledge. One of the KM initiatives a few years ago was to encourage team teaching. This is where somebody presents a policy issue and they may bring an expert to talk to the team and the team will go out and share with other teams. But it is part of the culture of team meetings now.
There is a massive range of seminars. People want to share what they are doing. There is history society; they are looking at policies formulated in the 1970s and bringing someone in [to delve in the changes and enhancements that have taken place over the years]. There is a real hunger for this kind of thing here in this organisation.
Yes, definitely, I wrote down policy partnerships for this. Our organisation is the policy making part of governance for finance and economies and we run the big fiscal events.
Lessons learned are embedded really in the organization as well. So after each big project…For instance, after work on the Autumn Statement, there will be huge lessons learned where the people delivering it will talk to everyone that was involved and externals and ask how we can do this better.
Our events include seminars, Workshops, Lessons learned, Peer Assist, Knowledge Champion Networks, Team Teaching, Stand up briefing, Stakeholders' management [meetings].
We run things like History Days and we get politician to speak to us, our Ministers speak to us, Economists come in. These activities run at lunchtime or at the end of the day.
We have tried a number of approaches. The most successful has been running a series of half-day workshops with an outside facilitator with a lot of experience or working with organisations. So they see that actually KM doesn't need to be complicated, it doesn't need to be expensive and that everybody can actually do something to change.
There is something very distinction which originates from the old department here – Trade and Industry - and it's called here [DDD] School. [DDD] School is a series of organized, sometimes lunch time one-hour, sometimes, two-hour or three-hour, workshop or seminar run off site where experts in their field will run dedicated lessons for staff, sometimes 20, 30 or 50 staff on a topic.
We do try to create new knowledge by cross-fertilization within [the organisation]. We get teams to talk about projects to each other. But generally the quick solution is to bring in a specialist from outside of the organisation.
Something that is growing more and more is the After Action Reviews. These reviews try to look at what was set out to be done and what outcome was achieved and why.
We have professional practice around particular areas.
I have to run a series of mass class conferences and seminars so we encourage our staff to attend these programmes as subscription is paid.
We have knowledge awareness sessions. We have knowledge cafes, peer-to-peer sessions, team meetings.
We rely on academics from the universities and private sector professionals for knowledge we may need from external sources.
We also belong to the Henley KM Forum, which has an online learning resource. Henley holds three events in the year.

Table 4.12: Events KM factor – substantiating codes

Concepts and context

Concepts that describe Events include knowledge fairs/cafes, seminars, workshops, conferences and teaching sessions. Some of the events involve work groups or teams while others are organised to involve employees across the organisation. Organisation-wide events are usually intended to educate workers on some aspects of the business or operations of the organisation. Knowledge Managers intentionally arrange events to enable crisscrossing of knowledge between various policy teams or groups. The KM literature is clear on the importance of events as tools for engendering employee learning, knowledge creation and sharing, as they provide opportunity for interaction.

Due to the proximity of employees, virtual events have not been incorporated in the organisations studied. For instance, facilities for video conferencing were rare. In all the cases studied, events are given priority and time is readily allocated.

Characteristics

Some Knowledge Managers have regular sessions with their knowledge champions, volunteers or nominated representative of work groups and teams who champion the KM agenda in their respective areas. Besides providing avenue for knowledge creation and sharing, events may kick-start communities of practice. When events bring people who share a common interest together, there is a high tendency that they may want to meet or keep in touch informally, physically or virtually, to further explore their interest.

Some of the events are teaching sessions, or events designated for team teaching. Such events are specially arranged to impart knowledge and to practically enhance employee learning. Public servants in organisations whose work is a bit technical find these teaching sessions very helpful. In all cases, it was observed that whether the event was internally or externally held,

employees were keen on attending and management appeared to have granted its unwavering support.

Employees at all levels are encouraged to attend knowledge events. The study revealed that employees in the public sector have five-days-a-year training and development leave, which can be used for any form of learning in parts on at a go. Some employees arrange and attend selected events to enhance their competence as part of the days allowed for training and development. Perhaps, the studied organisations would want to consider the suggestion of Earl and Scott (2001) that establishing the supporting tools for events is an important KM activity. One initiative of the Civil Service Reform Plan is to digitize public services. It is believed that in creating the IT platform to offer public services digitally, tools and technologies for virtual events such as video conferencing and web conferencing (or webinar) would be deployed throughout the public sector organisations.

It was observed that active participation in KM events can be improved across board if KM events are intensively evangelised. When employees get to know what is in those events for them, their interest will be kindled and their attitudes will change for the better.

Application to the Ghanaian KM Context

Acquisition: KM events require time to be allocated for them and in most cases financial support is required. For virtual events, some pieces of equipment may be required in addition to the appropriate technology. Together, these represent a huge demand in the Ghana public sector set up in terms of attitudinal change and financial commitment. To introduce and cultivate physical and virtual events as mechanisms for creating and sharing knowledge in Ghana will require the sensitization of public servants, most of whom may not be used to attending events organised within or outside their organisations.

In particular, supervisors and Middle Managers would have to be sensitized and such events designated as part of training. Once supervisors and Middle Managers are brought on board this way, a good number of employees will develop interest in KM events gradually. The influence of Middle Managers is crucial in any KM initiative. Middle Managers' non-corporative posture can sometime frustrate the good intentions of Senior Managers because of their direct control of employees.

Absorption: A practical way to promote and inscribe KM events in public sector organisations in Ghana is to have an effective Senior Sponsor. Such a sponsor will not only ensure adequate provision of resources for such events but will also cease every opportunity to engage with the rank and file of leadership of the organisation to evangelise the KM benefits. Beyond evangelising the benefits of KM, the Senior Sponsor would be in a position to help institutionalise some physical and virtual events through policy changes and directives. This means some events will become part of the work groups or teams' routines in addition to organisation-wide events.

Research Participant View

The use of project teams must be encouraged.

The concept of 'best practice' is difficult to define. For developing countries it is easy to model the practices in an advanced country as best practice. Organisations with weak cultural heritage and bureaucracy will find it difficult to share new ideas and innovations. In Ghana most foreign courses attended by public officials are not put to use at their work places.

4.2.2.4 Policy and Politics (K4, K5, K6)

The influence of policy (public policy) and politics is palpable in the organisations in the UK, though less abrasive compared to what pertains in their Ghanaian counterparts. Politics, which is largely 'unwritten' and 'personal' in nature within organisations is defined to include bureaucracy and hierarchy,

which is institutionalised (in many respects) in the public sector. Crudely defined, politics connotes the tendency for individuals or groups of individual to raise personal interests/ambitions above organisational wellbeing to enhance their status or increase their power. In the extreme, politics may leads to antagonism among employees, where the 'downfall' of an employee is pursued by another resulting in incorporative attitudes and behaviours.

Bureaucracy implies excessively complicated administrative procedures while hierarch is defined as organisational ranking based on relative status or authority.

The study gathered a solid body of evidence that depicts the pervasiveness of politics and bureaucracy in the public sector. At brainstorming sessions conducted at the Information Resources Management College of the National Defense University in Washington DC, both public and private sector participants cited similar reasons for starting KM in their organisations (Abdullah and Date, 2009). According to the participants, reasons for KM stem from the need to attract and retain human capital, foster social capital, create and use structural capital, share best practices and processes, and collaborate with others. An important observation at the session was the need to align the KM goals with the strategic objectives of the organisation. Despite the obvious display of similar KM needs and strategy, public sector organisations and their private sector counterparts exhibit different internal dynamics, which make them different in some respects. It is important, therefore, that KM initiatives designed for the public sector take into account the peculiarities of the sector.

One such peculiarity of the public sector which makes it different from the private sector is existence of rigid rules and regulations or 'policy'. Policy in this context refers to the regulations and legislations governing the work of and for government. It is a fact that the level of accountability and regulation is considerably stricter in public sector organisations.

Together, policy and politics present potentially, a colossal threat to organisational programmes and initiatives, including knowledge management.

If unchecked, they can stifle initiatives; kill creativity and breed cliques in the organisation. Table 4.13 provides the substantiating codes for these conditions. The potential impact of 'Policy', 'Politics' and 'Bureaucracy/Hierarchy' on KM are discussed simultaneously in the sections that follow.

POLICY and POLITICS: Substantiating codes
The professional advisory cadres in our organisation currently have 10% time allocated to activities that include continuing professional development
We had a dedicated Knowledge and Information Management (KIM) Team until a few years ago, in addition to Information/Content Managers in each department/office combining roles around Quest and the intranet with their main job function. Now we have KIM posts across various teams in key departments, along with Information Managers combining Quest tasks with their main roles.
We had a central team – there was KM lead, facilitators, support roles, a technical role and administrative roles. Now KM roles are in the business internally.
No, the existing culture hindered KM...People didn't see a lessons learnt as a positive thing. They saw it as 'I have made a mistake and I've got to admit it and in order to learn from that or share that we needed to document that'
There was a big project bringing in a new system but it stopped…To be honest I don't know why it stopped. I think may be people didn't believe in it; I don't really know the facts about it but it stopped.
A lot of organizations will often recognize the same people over and over and other people are doing something good elsewhere but less visible. It is almost a disincentive. It is something that has to be done very carefully.
The challenge is merging organizations with different cultures. For example, we merged with this organization [under some restructuring policy] that organization had a KM team but they got rid of their KM team. So this clearly shows KM was not valued in that organization. So there is a big clash in cultures. And also to an extent, people also see themselves as one organization or the other.
In the organisations some Divisions have Knowledge Managers and others don't. We support those who don't have. We asking every team to nominate somebody who would be knowledge champion and I would be training those and supporting them to do their work. In that we will be having smaller [representatives].
There is still an awful lot of work to be done across the organization to get tall convinced. We have recently got somebody who is very senior who will [keep] key performance indicators (KPIs) for KM.
There isn't a formal policy I know of regarding time for knowledge sharing or training.
What encourages people is recognition….
But because we are sitting in the Portfolio Office, it is easier for us to talk to projects and programmes. It is less easy for us to talk to say Human Resources. So the impact is that we now appear to have a smaller remit and that is a problem, in my opinion.
I am working with really bright people. The policy people are great. I like that. It's challenging but it's worthwhile. So we've got this informal style and people are available and their availability is projected across the organization, that's what I mean to say. People are encouraged to explore ways of improving policy; I see this going on all the time. Emails will be going round saying this is what we are doing if you are interested come into the session.
Yes! This is my first civil sector job and to me there is a distinct hierarchy and I have never ever come across it before. Everyone has got a range. I am in range D. But the Deputy Directors who lead the teams have an informal style and the organization itself is informal although we've got the structures in place. So there are not even nicer desks for the senior people, we all sit in the same space. And there's a real culture of having catch ups. So, there are lots of informal meetings. I talked about these weekly team meetings; I

don't know when they started but I suspect they are part of the original KM pieces – you need to meet with your team regularly. In fact, I have approached a Deputy Director before (I wanted help with something…I can't remember) and I was really able to say 'Do you mind if we have a quick chat?
However, if you offer something compelling, and it makes sense and it will benefit them [workers] they will do it. For me that was a real shift. I came from the private sector where I will send an email and say do this, do that, and do it now. And that was accepted. Here it is much more nuanced; you've got to sell the KM idea, you've got to demonstrate that it's going to work, and people will come with you. It is very different.
In our organization like profit or money isn't the bottom line. The bottom line is doing your job well and providing good advice to Ministers. So I think it's just a completely different set up. What I wrote down is that…If something makes sense it will be adopted. We've got a culture; really, it's very free here.
We don't have a team of experts to certify knowledge products – briefings and submission. I guess once you know you are writing to the Minister you will give off your best. It would be a huge embarrassment if you get it wrong. Briefings and submissions are signed off by a range D Leader [Head of Directorate]. It is part of the policy-making training. So our new joiners are trained on how to create a policy. Part of it is a KM training on looking up what is available, digging into the past, looking for exerts, looking for external information that can help you
No express permission is required from HR for employees to embark on knowledge creation or sharing activities.
We are governed by the Public Records Acts and Freedom of Information act. So we have to leave a record of the work we do. We don't own the work we do, the public owns it, and it will be released to the public under the 20-year rule.
Yes, our KM activities cover everywhere in the organization. It's about a vision and philosophy and we know we've got a long way to go. The change we are trying to make affects the whole organization. Everybody is involved but many people don't know they are involved. I will explain. Most staff are concern with their area of expertise and what their policy teams are with delivering. So they view the KIM team as a bit outside. So they do need convincing. As a consequence there are always internal divisions, slight internal differences; they use different systems, different routines, and different HR policies.
Civil service is very hierarchical. If you are on a small team…I came from [an organization that had] three hundred people. I was two places removed from the leader. That means that when I am making a recommendation it is quite easy to be higher [up the tree] and get heard…it gets to the second in command right away. If you are in an organization that is fully-fledged ministerial department, you are about six or seven places from the top. So getting your message heard across the organization is extremely difficult. In flat, non-hierarchical organizations like some private organizations, it is easy to talk to the CEO.. [and have thing move on from there]. So it is difficult not because of the size but because of the structure. So when it gets bigger the structure begins to get in the way.
At those workshops you have the most junior person in the organization and you have the Director General in the same room at the same time. It is one place where the hierarchy disappears. It is the only place where you can put people of different grades in the same room at the same table and nobody behaves like they are of different grades.
Another organizational/cultural challenge is that unlike in the private sector (which is proactive), in government we tend to be reactive.
In commerce [private sector] you are expected to look, anticipated and try to do better and come up with something new to keep up with the competition. In government, the Permanent Secretary waits for the Minister, the Director General waits for the Permanent Secretary, and if it is not in your normal list of things to do, you don't do it.
Because, if you get it wrong, they will ask you who told you to do it in the first place? So if you have to deliver something by Friday that costs £100, you don't try to deliver it by Thursday at £75 because there is a risk. That is very important, and that means, you don't do something you are not told to do, and that is a cultural issue.
I think that is a challenge across the whole government. Thus, because units must be ready for government machinery it creates some barriers between units/teams. Another organizational/cultural challenge is that unlike in the private sector (which is proactive), in government we tend to be reactive.

Table 4.13: Policy, politics and bureaucracy/hierarchy – substantiating codes

Concepts and context

Some straight-talking participants interviewed for this research did not mince words on the 'role' of policy, politics and bureaucracy/hierarchy in public administration. One participant warned, "If you have been asked to deliver it on Friday at a cost of £1000; do not attempt to deliver it on Thursday at a cost of £500". Such an effort to save so much money would be deprecated if something goes wrong. This is an evidence of asymmetric incentive in the public sector. The institutional arrangements in public sector organisations 'thrive' on the existence of policies, politics and bureaucracy/hierarchy. These can however, be carefully controlled and redirected to enhance KM practices. Concepts that describe the existence of these attributes include bureaucracy, policy, regulation, authority, politics, reforms, hierarchy, and senior sponsorship.

Characteristics

As aforementioned, the reasons why the public sector organisations are plagued with complex regulations, power relations and bureaucracy are outside the jurisdiction of this research. The fact is that they exist and the Knowledge Managers or KM advocates in any public sector organisation must be well aware of them. Dandeker (1990) has argued that without bureaucracy, running of some of the systems of modern society would suffer. He indicates that the collection of taxes and the production and distribution of goods and services, for instance, would be difficult, if not impossible.

The following excerpt describes bureaucracy in public sector organisations, "Bureaucracies control people by replacing human judgement with nonhuman technology, thus creating a formalistic impersonality of the system. Even bureaucracy itself can be seen as a huge nonhuman technology that functions more or less automatically. Rules, regulations, and institutional structures replace the adaptability of human decisions, that is, employees of bureaucratic organisations generally follow the rule and regulations in a predetermined sequence instead of evaluating each case separately. They must get their jobs

done in a certain way by a certain time without mistakes, and the role of informal systems of human action is diminished by the highly formalized structures. Bureaucracy controls not only employees of an organisation but her clients as well", (FIDIS, 2009).

Bureaucracy is present in both public and private sector organisations but the differences in institutional goals make bureaucracy in public organisations more hostile to nurturing of knowledge culture. Furthermore, the presence of a rigid hierarchy in public sector organisations leaves little or no room for workers to exercise their innovative prowess.

Strict policies, rules, procedures and hierarchy of reporting are visible features in public sector organisations. They dictate how tasks are organised and the leverage employees have in the discharge of their duties. Unlike in private sector setting, such formal and usually rigidly prescribed conventions inhibit interactions among employees and dampen organisational knowledge culture. By and large, public sector organisations have been labelled as desolate to knowledge sharing and innovation, partly due to its anti-knowledge culture policies. Some of these policies make incentive in the public sector asymmetric, in that, unsuccessful innovations are punished much more harshly than successful ones are recognised and rewarded.

Organisational politics connotes power relations, where one uses the opportunities, privileges and rights at one's disposal for 'self-gratification'. Politics in public sector organisations can take many forms and is exacerbated by the existence of strict hierarchical relations and rigid institutional policies. Politics can be used as a weapon for settling individual, even private, conflicts between workers. In this way, high ranking employees and their cronies can easily sabotage or undermine initiatives such as knowledge management, which may require change management. A Senior Leader who is at loggerheads with the KM Leader may antagonise the successful implementation of a knowledge management programme, which will go to the credit of the latter.

In the UK where accountability in the public sector is demanded by the citizenry, acts of politics that are intended to achieve personal whims and caprices at the expense of the organisation may be rare. Such acts may be subtly carried out in extreme cases. Ministers and Senior Public Officers easily resign from their posts when there is a public outcry over their conduct, sometimes involving their private lives. The study revealed that workers in the Home Office came under a barrage of criticisms from the Tabloid newspapers for not sharing information and for not collaborating enough. Thus, the debilitating effects of politics on KM as an organisational strategy can be curtailed if policies and broader government legislations do not leave too much room for Senior and Middle Managers' indiscretion.

According to Abdullah and Date (2009), policy must be flexible to encourage workers to interact as well as give the organisation flexibility to adapt to an ever-changing environment. They argue that organisational policies must encourage knowledge creation and sharing activities through setting flexible working relations among employees, providing incentives, encourage non-bureaucratic decision making, moderating hierarchies and promoting innovative and entrepreneurial culture.

Application to the Ghanaian KM Context

Prevalence: A distinct difference between public sector organisations in the developed and developing world is that, the Inertia factors are more prevalent in the latter and account for substantial waste of government resources. In most situations, even where policies and legislations categorically require Senior and Middle Public Administrators to act with circumspection, they are able to bend the policies and 'do their own thing' with nonchalance. Stifling policies, organisational politics and rigid bureaucracy/hierarchy present the biggest challenge to KM in Ghana.

The extent to which reforms in the public sector have curtailed these phenomena is yet to be ascertained. A good number of Ghanaians and the

country's development partners are optimistic about Ghana's future in the knowledge economy. Such optimism can quickly disappear if actors in the sector do not make conscious efforts to stem this canker.

Promotion: The research clearly shows that government-led reforms are the surest way to instil some of the missing administrative and managerial qualities in the public sector. As noted in the study, the Civil Service Reform Plan and the accompanying Civil Service Competency Framework are two sector-wide interventions that from all indications have coalesce to ratchet up pressure on civil servants and public officials alike to get their acts together. Participants in UK were quick to point to these interventions as constant reminder to workers in the public sector of their 'changing roles and changing organisational requirements'.

In the same vein, Ghana can rely on effective – measured and evaluated – reforms in the public sector to reduce, if not eliminate, the negative impact of policy, politics and bureaucracy/hierarchy. Ghana's attempt to reform the public sector dates back to the 1980s. A more recent reform was the National Institutional Renewable Programme launched in the 2000s. Its overarching aim was to introduce institutional changes that would enable the public sector deliver an efficient and cost effective service to the populace. Other aims included making public sector organisations more responsive to the needs of the private sector and building the capacity of public sector workers to enable them support the core business of government. The reforms initiatives led to the drafting of a new charter for the public service, which was to establish a social contract between the civil service and the citizenry.

Though a special Secretariat (formerly, a Ministry) has been created to monitor and co-ordinate improvements in service delivery under the Public Sector Reform programme, a study by Pratt and Ocran (2013) revealed that the programme has a long way to go if it is to register the intended outcomes. A survey of a number of public administrators above the rank of Assistant Director (Executive grade), a critical support group in the Public Sector Reforms, revealed they did not think the reforms were effective. Yet, a good number

thought the Civil Service was worse off or had not seen any positive change. Pratt and Ocran (2013) argue that efforts have been made to strengthen the Civil Service to deal with new challenges but the efforts have not gone far enough.

They conclude that, there are still a lot of different views about the direction that the public sector should go, and in their opinion that may explain why the Civil Service bill that was approved in 2008 has not been passed into law yet. They suggest there may be the need for greater consultation with public servants on the way forward to engender their co-operation – a critical success factor in any reforms initiative in the public sector. This is necessary especially when the reforms have assumed a top-down approach.

Research Participant View

Public Administrators are knowledge conscious to a reasonable extent, but the public culture is not supportive and politics has permeated every fabric of public administration hence knowledge preservation for continuity or change management is either non-existent or unavailable. We archival practices have also worked against knowledge exploitation.

For instance, when the procurement law was passed most people went to train as procurement experts. With time they realised that they don't have any future because of politics. They were not sure of their career progression and their remuneration.

4.2.3 Means

'Means' is the third core category, which defines how core business activities are leveraged to deliver expected outcomes (products or services) in the public sector and the processes by which the KM initiative/programme is conceptualised and implemented. For this study, the KM implementation plan involves aligning the KM strategy with the key objectives of the organisation, defining the KM structure in terms of KM jobs, roles and responsibilities, and understanding the KM universe of the public sector which encapsulates the knowledge exploitation and exploration processes, including creating

knowledge, assuring knowledge, sharing knowledge and using knowledge. Knowledge use involves capturing, storing, distributing and utilisation. As noted from the findings presented so far, the major arguments for deploying KM within the public sector rests on its contribution to the major objectives of the sector (BIS, 2005). A well-formulated KM strategy will achieve all the parameters mentioned under KM implementation and position the KM initiative to register positive impact on organisational performance.

Public sector business or activity can categorised into policy-making, organisational processes and service delivery. These need to be optimised with effective KM. In other word, KM will have to enhance the delivery of expected outcomes from these activities through effective knowledge flow. Participants from organisations that have deployed KM programmes constantly pointed to the need to leverage public sector activities through the KM programme.

Table 4.14 presents the substantiating codes for the 'Means' core category. The findings pertaining to the various factors under this core category are also presented from section 4.3.3.1.

MEANS: Substantiating codes
Resources are needed for change management, coaching and training and these are now more limited than in the past.
It has enabled us to meet targets; it helped us manage the security around the London 2012 Olympic Games!
It has brought together a strong collaborative working relationship with our internal departments where we focussed on how we manage information where it was clearly crosscutting. This has avoided duplication and enabled us to re-use knowledge where appropriate.
We are putting down a system where once lessons have been recorded it goes to a central body, which is quite senior experts of the organization and assess whether those lessons are useful, and if they are, they take that lessons and change the existing guidance on that process accordingly.
Some progress has been made in engaging staff e.g. through local Information Managers and other colleagues who are embedded in local teams. However, the risks to the Strategy that we have identified include change fatigue and staff being too overloaded to devote sufficient time to more effective knowledge and information management. Good practice ideally should be embedded in processes and the way they work.
Need to have a top/down as well as a bottom/up approach so that the benefits to the organization are spelt out and quantified wherever possible and this is backed up by stories and case studies showing how KM good practice can benefit the individual by making his job easier and allowing him to deliver more effectively.

It was about five years ago but not named Knowledge Management then. There was something about collaboration and something about lessons learned; but they were two separate things. And then KM started probably about six years. KM started properly four years ago, that is two years later. We had a central team – there was KM lead, facilitators, support roles, a technical role and administrative roles. Now KM roles are in the business internally.

We [appear to] have the Task-force approach, but we are not a knowledge powerhouse. We can be in danger of focusing too much on IT in that case becoming systems centred. Actually, we are somewhere between the task force and the hybrid approaches. We currently have records champions.

There's a line of ownership: The Head of KM comes first, next is the Chief Information Officer (he own it at the budgetary level, the budget stops with him). There is also the Finance Director who owns it but being the Finance Director, he is probably in a different mind-set from the soft and touchy feeling world of knowledge sharing.

The second challenge is about size and structure. Because it is very slow. The Chief Information Officer is relatively junior - he is three places from the top. I would prefer it to be owned by a Director General, one place from the top.

We have a Head of Knowledge and Information Management. So, when there is a Head of KIM, he/she can be said to own the KM initiative.

We are becoming less central, really. At the minute I am a one-man team. We'll hopefully get two people on to the team. The central team is going to be training people in the other teams to share knowledge. So it's a hybrid approach; there is a central team and [KM roles are embedded].

There is still an awful lot of work to be done across the organization to get stall convinced. We have recently got somebody who is very senior who will [keep] key performance indicators (KPIs) for KM.

We did a launch, a KM launch three-four years ago. We called it Knowledge Works. We were trying to raise awareness. Initially some teams saw it as a resource they can fell on for their reviews. Eventually people started to see the results for their own team when there was a retrospective review. I think there are some buzzwords that came in, knowledge sharing, collaboration, and lessons-learned.

We are putting down a system where once lessons have been recorded it goes to a central body, which is quite senior experts of the organization and assess whether those lessons are useful and if they are, they take that lessons and change the existing guidance on how to carry out that particular process. The organization has guidance on this is how we do a project, so it give you lots of details on that. So the lessons learned are easily embedded as the guidance is changed to reflect the new knowledge. In that case nobody actually needed to go and look up anything on the intranet. The next we need to think about is how to measure whether people are using the guidance.

When we started KM in 2009, we sought to work with the Projects & Programmes Unit and with the HR department. The way of doing things in the organisation is project-based, so we thought it would be a good place to get knowledge sharing tools and techniques in to the organisation.

Our Test and Design & Consultancy Services has created "job families" to help socialize, share best practice and interact.

Technology isn't the answer; it is all about behaviours.

This is a difficult one to answer in terms of investment made but what we can say confidently is that our processes have improved efficiency and timeliness of final products due to system design and how users engage with our systems.

The existing culture hindered KM...People didn't see a lessons learnt as a positive thing nor a negative thing. They saw it as 'I have made a mistake and I've got to admit it and in order to learn from that or share that we needed to document that'; and people didn't want that. One of the ways of changing that was focusing on good outcomes. We don't focus on what went wrong; we don't record what went wrong so much as what we can learn from it.

There is document management system. In terms of how we in KM help, we create knowledge assets on the intranet and people can get access. These include Guidance; Sampler & Exemplar Documents; Case Studies, Insights & Stories. These knowledge assets are embedded into processes, and into the teams' ways of doing thing. I am moving away from these now, because people don't use them. It's about embedding them so people don't see it as a lesson. This is just part of the way we doing things now. Yeah, we are a knowledge organization and everything we do is about knowledge. What we do is all about knowledge. Our role as an organization is to help [our umbrella organisation] to share its knowledge and store its knowledge or information. It starts with the medical records and our role is to create the computer systems to enable hospitals and doctors to share medical records. People are willing to share; it is part of the [organisation's] way, really. We are not a group of people that have their heads down. People want to promote their work, to give themselves some profile. It is very different here, I think. In the private organization money and profitability is the bottom line. In our organization that isn't the bottom line. The bottom line is doing your job well and providing good advice to Ministers,

Table 4.14: Means core category – substantiating codes

4.2.3.1 Strategic Alignment

To win Senior Management support, the benefits of KM must be demonstrated. This is usually achieved when the KM strategy is seen to be contributing to the key strategic goals of the organisation. The research conducted by the British Standards Institution (BIS, 2005) found out that this is not a challenge restricted to the public sector. It notes that, many of the successful KM initiatives in the private sector (at Buckman Labs and Shell, for example) began not from a wish to manage knowledge but from a compelling need to solve a particular business problem. The study further notes that KM, like other supporting functions, such as HR, works best when it is aligned directly with organisational objectives. It is easy to overlook this linkage if KM is treated as a professional specialism with its own tools and language, the study warns.

In the studied organisations, the need for KM has arisen from the existence of specific business challenges, some internally detected and others highlighted by Capability Reviews conducted by the Cabinet Office. It is therefore obvious that KM initiatives need to be formulated and targeted at specific organisational requirements to be successful in terms of receiving sponsorship and remaining relevant. Table 4.15 provides the substantiating codes for this condition.

STRATEGIC ALIGNMENT: Substantiating codes
A review entitled 'Doing the Knowledge' was produced in 2000. Our 2009 Knowledge and Information Management (KIM) Strategy has been recently reviewed and refreshed. The 2009 KIM Strategy was subject to wide consultation and agreed by the Management Board as supporting DFID in meeting its business objectives and cross Government requirements
DFID funds new research into international development that is made available to all through the R4D resource on GOV.UK. Innovation is also encouraged under the KIM Strategy through better sharing of experience and lessons, from outside as well as inside DFID. This helps lead to new approaches such as those supported by DFID's Innovation Unit.
DFID's Learning Strategy has a learning capability strand and this encourages continuous learning and development through coaching, mentoring etc.
The aim is that KM activities should be integrated into our business processes.
It has until now covered projects and programmes. Discussions have been held as to whether it should cover Services as well. We also looking at spreading KM across the central functions; HR, Communications, etc.
We had a central team – there was KM lead, facilitators, support roles, a technical role and administrative roles. Now KM roles are in the business internally. In [our organisation] some Divisions have Knowledge Managers and others don't. We support those who don't have. We asking every team to nominate somebody who would be knowledge champion and I would be training those and supporting them to do their work. In that we will be having smaller [representatives].
I am not sure management is convinced yet. In the minute, we are doing something quite across the whole organization. So KM we are trying prove…we have to demonstrate that it is adding value…I think some senior management haven't seen the value until recently. There were criticisms that the NHS not working together enough, not learning from each other. There is still an awful lot of work to be done across the organization to get stall convinced. We have recently got somebody who is very senior who will [keep] key performance indicators (KPIs) for KM and so KM is going to be embedded into the organization. Or there will be an attempt to measure the impact of the KM programme in the organisation.
There are a number of different ways but the main way has been that at the end of every [ ], we have retrospective reviews and I facilitate that and change that learning to recommendations and publish that as knowledge assets on the intranet. Sometimes people didn't know that there are knowledge assets or they were not bothered to search for them.
We are putting down a system where once lessons have been recorded it goes to a central body, which is quite senior experts of the organization and assess whether those lessons are useful, and if they are, they take that lessons and change the existing guidance on that process accordingly.
For the aim of our KM programme, it is the same thing again – Making delivery better, cheaper, more efficient, avoiding pitfalls.
We could. What has been happening is that the bosses saying this is what we want to achieve and it will come down that way. If we can prove that what we want to do will bring some gains then we will get it. If we say we want everybody spending five days doing learning, they will 'why, what are we going to get from it and how much is that going to save the organisation? We can't quantify that so it's never going to happen.
There is document management system. In terms of how we in KM help, we create knowledge assets on the intranet and people can get access. These include Guidance; Sampler & Exemplar Documents; Case Studies, Insights & Stories. These knowledge assets are embedded into processes, and into the teams' ways of doing thing. I am moving away from these now, because people don't use them. It's about embedding them so people don't see it as a lesson. This is just part of the way we doing things.
I think KM should sit as a separate thing. It shouldn't be in any of these directorates, like we are in the Portfolio Office. Some places it is in organisational development and it looks very much like a training initiative. For us it looks like a projects and programmes initiative. It needs to be a separate thing so that it looks right across the organization. But having said that, if that organization really wants to concentrate on the training side or the organizational development side of things, then that is where they should concentrate their KM; then that where it should sit. But maybe it should be an island.

I think that is what happened. The report went to the Executive Management Board, they agreed with the recommendations and the money was found to hire a Head of KM and then this set of five knowledge managers.
That has whittled away over time but the organization still recognizes that we are a knowledge business; we don't produce anything other than pieces of paper with our advice drawing on our expertise and external information sources. So I guess there is still money in the pot for KM; because I have still got a job and I get paid every month. At the moment we are looking to hire another person to help me out.
Division that KM is intended to support Policy and Development, · Briefing, · Submission, · Correspondence (We have huge correspondence from the public and there are standard guidelines for dealing with that), PQs (Parliamentary Questions), · Consultations, · Delivery of Fiscal Event
Yes, we have a written KM strategy.
Our KM programme officially started in 2010 when the NPIA developed a Policing Knowledge Action Plan which sets out a delivery programme that will build the foundations for a future where police officers and staff have the knowledge that they need, where and when they need it, to police effectively and economically.
We trying to be eternally facing towards the forces and that is quite a challenge. Other department may have their own way of doing things but we are becoming much more coherent, much more aligned. It was an issue in NPIA certainly and that was a big challenge.
I run what is known as research fair. It is basically the concept of knowledge markets; we have done knowledge cafes, after action reviews, best practice transfer. We are using a lot of the KM techniques and tools, but perhaps not tagging them as knowledge management, because we are trying to make them relevant and attractive to practitioners.
Knowledge sharing and some KM practices are fundamentally part of the business processes of the NPIA and now the College of Policing. Knowledge sharing techniques are embedded in routines.
The main one is to connect those people who know with people who want to know and then to give people the tools and techniques to find the information they are looking for so they know where to look.
Corporate memory; the value of corporate memory... Part of the Cabinet Office culture is to bring people in and to kick them out after a short time.
We will do this by creating a knowledge sharing culture where: Knowledge is valued as a corporate asset; We use our knowledge to maximise the value of the information we hold; We are connected to each other – we know who we are & where we are; We are able to collaborate and work flexibly; We know what we know and learn what we need to learn.
The aim is to integrate the KM functions and the Home Office functions so that we can say 'this is where we are and this is what we are doing'.
So I think that contributed to convincing the business of the importance of knowledge sharing.
In the main people aren't thinking about knowledge management, they think about how to do their job better.

Table 4.15: Strategic alignment factor – substantiating codes

Concepts and context

As already pointed out, the benefits from KM can readily be seen, measured and even quantified (in some cases) if the KM strategy is aligned with specific organisational goals. For instance, aligning KM practices to help employees

identify and track knowledge assets more easily to improve service delivery, in terms of quality and delivery time, will very much resonate with top management. Aimed to directly address this and other challenges of the organisation, the KM strategy is likely to receive senior sponsorship with little or no resistance. The study revealed that KM in the public sector is designed to provide positive leverage for the core activities in the sector – policy-making, organisational processes and service delivery. Concepts that describe this condition include After Action Reviews, KM strategy, KM integration, knowledge assets, knowledge sharing, mentoring, coaching, embedding lessons learned and assuring knowledge.

Characteristics

The KM literature points to aligning the KM strategy with those of the organisation as one of the defining qualities and success factors of any KM initiative. The cost and requirements of KM becomes secondary if top management can reckon the potential impact of the initiative on business activities, particularly, on specific organisational goals. Whether the KM programme is limited to some functional areas or divisions, or spans the whole organisation, it may lose focus and relevance if not framed to help address a business challenge. The KM initiative receives Senior Sponsorship in terms of resource and time allocation, institution of appropriate reward and recognition schemes and facilitation of change management if seen as a mechanism for meeting organisational, stakeholder and broader government expectations.

Setting short-term and long-term KM strategic goals in tune with business vision of the organisation helps the KM team to stay focused and to safeguard the relevance of the initiative. The study revealed that a short-term KM strategy of connecting people “who want to know with people who know” can help employees perform their tasks with much more confidence and within set deadlines. For long-term objectives such as embedding lessons learned in the organisation through policy changes or revisions of operational guidelines, there

will be the need to record best practices that have been introduced and their impact on performance.

The KM team or leaders must have a thorough understanding of the overall vision and mission of the organisation as well as any defined strategies. Based on this insight, the KM strategy can be developed in tandem and carefully structured to address challenges such as employee connectivity, divisional integration, innovation, and quality improvement.

In the studied organisations, the KM strategies have been formulated to address the wider improvement requirements catalogued in the Civil Service Reform Plan and the accompanying Civil Service Competency Framework. Among other objectives, the various KM strategies have sought to improved organisational cohesion through collaboration and improved employee connectivity and embedded evidence in policy- and decision-making.

Integration with organisational goals is also enhanced if the KM team or leaders have a good grasp of the business activities which must be leveraged. This requirement is amply satisfied if knowledge champions or activists are volunteered from the different business divisions or policy areas. These champions and activists become knowledge crusaders in their teams and facilitate compliance with KM techniques and practices.

Application to the Ghanaian KM Context

Acquisition: The importance of aligning the KM strategy with those of the organisation has been emphasised by Sveiby (2001). It should be the aim of the KM team to involve top management in the formulation of the KM strategy so that KM will receive the needed Senior Sponsorship. The study revealed that KM made huge impact in organisations where members of top management were involved in the KM initiative.

Knowledge management initiatives within public sector organisations in Ghana must definitely not overlook aligning the KM strategy with the broader

organisational imperatives. Participants noted the likely resistance to KM from top management due to budgetary constraints and other organisational structures. KM teams or leaders in Ghana's public sector should adopt behavioural change or personalisation strategies to assure top management of the relatively low financial implications of the KM initiative. Assurance of minimal costs, less radical change of institutional arrangements and expected benefits, will engender top management support for the KM initiative and attract its members to its formulation and implementation.

Absorption: After gaining top management support, KM teams should find a way of institutionalising and aligning the KM strategy with current and emerging organisational objectives. This can be achieved by institutionalising the KM programme as an organisational intervention. With this recognition, KM teams will be empowered to obtain relevant information from divisions or functional areas across the organisation to aid in drafting KM strategies and devising KM practices and techniques.

Research Participant View

Public organisations in Ghana have well laid out organisational strategies [that KM can support].

4.2.3.2 KM Structure

The KM structure defines the KM jobs and roles. The literature argues that developing and implementing organisation-wide KM programme can be a challenging task due to lack of expertise, immaturity of the KM subject and complexities stemming from the structure of the organisation itself. In the organisations studied, the KM structure differs by the number – each has its own structure with varying number of employees championing the KM agenda. A common assertion was that KM must be embedded in the business activities

of the organisation to enable seamless flow of knowledge activities. The implication is that, the KM structure must be decentralised as much as practicable. Table 4.16 provides the substantiating codes for this KM factor.

KNOWLEDGE MANAGEMENT STRUCTURE: Substantiating codes
[The KM team] is a distributed team. My role is based in Business Solutions Division and my aim is to coordinate activities carried out by colleagues taking forward KM activities across the functional areas noted above. Projects relevant to KM are led by business areas such as HR and delivered jointly with BSD.
Some progress has been made in engaging staff e.g. through local Information Managers and other colleagues who are embedded in local teams. However, the risks to the Strategy that we have identified include change fatigue and staff being too overloaded to devote sufficient time to more effective knowledge and information management. Good practice ideally should be embedded in processes and the way they work.
We do all of the above. We buy services from a number of consortia. We have an electronic library available to staff via the Intranet. The research that we fund is made available through the R4D resource. Staff access new knowledge through membership of networks and communities.
[The organisation's] Learning Strategy has a learning capability strand and this encourages continuous learning and development through coaching, mentoring etc.
We had a dedicated KIM Team until a few years ago, in addition to Information/Content Managers in each department/office combining roles around Quest and the intranet with their main job function. Now we have KIM posts across various teams in key departments, along with Information Managers combining Quest with their main roles.
KM tends to be seen as systems based so we often communicate what we are doing using different terminology e.g. lesson learning and knowledge sharing.
We did a launch, a KM launch three-four years ago. We called a Knowledge Works. We were trying to raise awareness. Initially some teams saw as a resource they can fell on for their reviews. Eventually people started to see the results for their own team when there was a retrospective review. I think there are some buzz words that came in, knowledge sharing, collaboration, lessons learned.
So the lessons learned are easily embedded as the guidance is changed to reflect the new knowledge. In that case nobody actually needed to go and look up anything on the intranet. The next we need to think about is how to measure whether people are using the guidance.
Formerly the size was hundreds of people. The current size isn't as big as the former organization. Now we are working with a smaller number of staff and able to hit a bigger percentage. Formerly, the bigger size meant only a small percentage was actively participating in KM activities. There were geographic barriers and the cultures from the different organizations also posed some challenges. Now that the size is smaller and these challenges have reduced.
This is a new thing. This is what is going to happen; We are going to have Heads of profession. So there's going to be a Change Management Head, for example. He will bring all those who are experts or interested in change management to work together. It might be workshops, discussion forums, it might be wikis; they will be considering things like – What is the sum of knowledge on this? What can we do to make it better? In the past, new knowledge has emerged, probably the best that I am aware of, through the retrospective reviews and peer assist sessions. In the peer assist, one team is sent to the other …here is our challenge, here is our….How did you address your challenge? Help us to address this challenge.
It used to sit in a part of the organization called Informatics Capability Development. The role of that whole team was to help the NHS be better at using computerised systems. So that was where it was. With now, we turned round to look internally we have what is called the Portfolio Office. So supposedly that means we are here to help with projects and programmes but actually we are here to help across the whole organization. So it is not the right place. I don't think it is the right place. I don't think it sits in the same place in each organization.

But because we are sitting in the Portfolio Office, it is easier for us to talk to projects and programmes. It is less easy for us to talk to say Human Resources. So the impact is that we now appear to have a smaller remit and that is a problem, in my opinion.
I think it should sit as a separate thing. It shouldn't be in any of these directorates, like we are in the Portfolio Office. Some places it is in organisational development and it looks very much like a training initiative. For us it looks like a projects and programmes initiative. It needs to be a separate thing so that it looks right across the organization. But having said that, if that organization really wants to concentrate on the training side or the organizational development side of things, then that is where they should concentrate their KM; then that where it should sit. But maybe it should be an island.
This report that really looked at the whole way we manage knowledge here and made some recommendations and that led into us having a whole [number] of knowledge managers, one in each directorate and appointing one as the head of KM.
The situation that we in now is that the link between the policy part of the organization and knowledge management has been broken and KM is now part of the corporate centre and it has been for two years or coming up to two years. Since we have been working for the corporate centre it's lost its way…we written KM strategies and they have been rejected without any reasons.
I wouldn't call myself a central team. The Centre pays me; but I am embedded in the business.
I am working with really bright people. The policy people are great. I like that. It's challenging but it's worthwhile.
In terms of people we've got this team structure; so within each of the groups there is a set of teams and within those teams there are branches, which deal with specific policy areas. Teams meet regularly and that is where they talk about what they are doing and share.
We are going through austerity, which is shrinking the KM team, and workforce and this is means putting a lot of pressure on staff.
KM as well as all other policy areas is suffering under the government cuts. We are not going back to the time where we had a Head of KM who sits up there and supported by a KM team.
Yes, it covers everywhere in the organization. It's about a vision and philosophy and we know we've got a long way to go. The change we are trying to make affects the whole organization. Everybody is involved but many people don't know they are involved.
For management, there is a team; very very small team [Knowledge and Information Management (KIM) Team]. In reality it's actually only three permanent staff. There is an informal structure or a semi-formal structure; we work with networks of virtual teams. So people who lead policy teams are part of the network. They spend 10% of their time doing work that will guide them. So that is how we operate; there are only three of us.
Some teams are increasingly nominating Internal Knowledge Managers; In fact, we have a few. They have business managers who are looking after administrative processes to make their policy team efficient. They might be responsible for chasing and updating their records and finances, etc, and there is one of them who said he wants to improve how they share knowledge in financial compliance. The KM role will be part of the business manager's role. It has been recognized that, to be an efficient team, the team needs to do what they have to do to learn from others.
Because KIM is stuck to the back of records management, I would say, we are detached from what the organization does.
So we have to be careful if one person is in charge of IT and KM. The fact that he is in charge of both it is easy to curb knowledge sharing. When you use technology in knowledge sharing we want IT to be subservient.
We've gone through a process getting a new Director General. I have no idea what that Director General's view is. We had one Director General, a while ago, who had very strong views about knowledge sharing. If that person [who is coming] doesn't regard knowledge sharing as high on his agenda, then the CIO would have to…he doesn't have the clout.
The KM functions are embedded in a lot of the key elements/processes of the organization but not specifically as a KM function, in essence.

Table 4.16: KM structure – substantiating codes

Concepts and context

A number of concepts emerged that described the perception of KM structure within the studied organisations. They included: network of knowledge champions, Knowledge and Information Management (KIM) posts, Knowledge and Information Management (KIM) teams, embedding lessons learned, central KM team, Knowledge Manager, Head of KM, policy teams and formal KM structure. The KM structures (how the KM teams are organised) in the organisations studied ranged from very formal and dedicated KM jobs to embedded KM roles. In the organisations, the KM teams vary in terms of numbers and responsibilities. The leaders have titles such as Knowledge Manager, Knowledge and Information Manager, and Principal Knowledge Coordinator. The KM teams drive the KM practices and some have a network of knowledge champions or activists who have (or are) volunteered to function as KM representatives in their respective work groups, teams or policy areas.

Where the KM team has representatives in the work groups or teams, the leader shares the KM vision, methods, techniques and tactics with the representatives and they champion them in their respective teams. The advantage of this structure is that, the KM roles are embedded and the representatives help with the diffusion of knowledge culture throughout the organisation.

Characteristics

Determining and developing the appropriate KM structure has far-reaching implications. The structure may fail to enhance knowledge culture if it fails to communicate the rationale and expected benefits of the KM programme. In this case, the KM structure becomes an inhibiting factor instead of enabling knowledge creation and sharing. Furthermore, a structure that tends to endorse a large and exclusive KM teams may become massive corporate cost centres (Kandadi, 2006). The future of the KM programme will be undermined, despite

the potential benefits, if the KM initiative weighs heavily on the organisation's budget.

For large and distributed organisations, building very small teams (around five people in each) across the organisation, is an effective long-term strategy, research has shown (Kandadi, 2006). The studied organisations reflected this proposition. None of the studied organisations had more than three people on its KM team. The extant KM literature recognises the importance of piloting KM programmes before organisation-wide implementation. Through piloting, the most workable structure can be determined which takes into account organisational complexities and cost implications.

Based on the strategic goals, business processes and activities and organisational dynamics, appropriate KM roles can be defined and described. Through piloting, the various channels by which content would be created and managed and knowledge culture nurtured can be determined and defined. A common structure identified in the organisations studied was a small KM team (team members have defined KM jobs and titles) that use the organisational structure to push the KM agenda.

In one organisation, the three-member KM team use the policy team to convey the ethos of the KM strategy. Team leaders combine KM roles with their day-to-day jobs. They take active part in organising and running knowledge activities that are intended to promote collaboration among the different teams across the organisation. In many ways, these team leaders support the largely dedicated function of the KM teams.

Interestingly, the study revealed that an organisation may have multiple KM structures if its divisions have differing characteristics in terms of knowledge intensity. Divisions or organisations that can be classified as highly knowledge intensive usually have formal KM structures with relatively substantial deployment of technology to help with knowledge creation, sharing, capture and reuse.

In one organisation, the KM team members work both as Knowledge Managers and mainstream staff. Their work schedule is split between knowledge management roles and some other core organisational activity. They promote knowledge culture across the organisation with the exception of a specialised unit that can boast of a more mature KM initiative. One observation that the study found revealing was the direct relationship between the KM structure and the technical intensity of the organisation. Organisations (or divisions thereof) whose mandate require more advanced technical knowledge have more formal and strict KM programme where there is a considerable use of technology in the KM processes.

Application to the Ghanaian KM Context

Prevalence: From the insights gleaned from the study, it is recommended that KM initiatives in public sector organisations in Ghana should be effectively piloted to determine a practical structure. Bearing in mind the perennial challenge of budgetary constraint and more complex organisational structures and behaviours, KM advocates must adequately evangelise employees and top management alike on the benefits of KM and the need to manage change together. This will exact maximum cooperation across the organisation and stimulate the needed interest to help determine the KM structure that will suit employees and top management.

A good grasp of the mandate and business processes within the organisation will help to develop and manage content. KM infrastructure and portal management may require full-time roles. The IT and any other relevant departments within the organisation may be assigned to manage the content of the KM programme in order to curb any costs that may arise from creating KM jobs for content editors and portal administrators.

Promotion: Much as it is important to determine a practical KM structure within public sector organisations in Ghana, such a structure should also be sustainable, able to support knowledge culture seamlessly. To sustain KM, the

literature (Kandadi, 2006) recommends that the KM structure should take cognisance of the following:

- Creating KM roles instead of KM jobs, which may be expensive
- Embedding KM roles in existing functional jobs
- Units and divisions managing knowledge themselves with the help of knowledge champions or activists volunteered from the unit or division
- Utilising informal organisational structures such as communities of practice (CoPs) and special interest groups (SIGs) for implementing KM activities. (This will restrict the number of KM jobs to be created)

Largely dedicated KM roles and jobs may be created as the KM agenda of the organisation expands (Kandadi, 2006). Top management is likely to endorse the creation of more specific and specialised KM roles such as Chief Knowledge Officer (CKO), Knowledge Managers, Knowledge Analysts, and Content Managers if, aligned with the strategic goals of the organisation, the KM initiative facilitates the achievement of these goals. This may not necessarily mean employing new workers in all cases. The organisational structure may be modified to accommodate these KM functions. Explicit KM job title may be assigned when the job of an existing officer becomes predominantly KM related. However, an officer will maintain his/her functional titles if the KM tasks do not outweigh the functional duties. An organisational structure with mixed KM and functional jobs and roles has been referred to as a 'Hybrid KM structure' or 'Hybrid organisational structure' (Kandadi, 2006).

It is expected that as KM becomes a stable or permanent competence within public sector organisations in Ghana, a more conducive form of KM structure may emerge to better address the KM needs of the sector.

Research Participant View

I would like to suggest that KM is not about IT; it is about business. One the business aims are well defined, IT systems could be utilised.

The hybrid approach [where KM roles are embedded into functional role] would be appropriate for the public sector

4.2.3.3 KM Universe

The British Standards Institution (BSI, 2005) conceptualises the fundamental approaches to KM as the 'KM universe'. The concept has been adopted to describe the KM approaches identified in this research. The KM universe categorises the approaches into knowledge exploitation and knowledge exploration. According to the British Standards Institution, knowledge exploitation involves making the most of existing organisational knowledge while knowledge exploration seeks to stimulate the creation and dissemination of new knowledge. Approaches for exploitation knowledge identified in the studied organisations included those for sharing, diffusing, distributing and utilising knowledge. On the other hand, approaches catalogued for exploring knowledge encompass those for creating, assuring, capturing and retaining knowledge.

In all the organisations studied, there was evidence of active participation in this universe, albeit at varying degrees of intensity. It must be emphasised that the whole essence of KM is to provide the strategies, techniques and tactics for leveraging these activities. Table 4.17 provides the substantiating codes for this KM condition. Interactions and activities within KM universe of the studied organisations and the implication for the Ghanaian public sector are presented in the following segments.

KNOWLEDGE MANAGEMENT UNIVERSE: Substantiating codes
[Our aim is to] effectively capture and share key knowledge, expertise and experience of our staff, especially during induction and handover.
The new Civil Service Competency Framework may help to ensure that KM skills are measured and recognized.
DFID's Learning Strategy has a learning capability strand and this encourages continuous learning and development through coaching, mentoring etc.
We encourage sharing information at handover and induction of new staff. We aim to encourage discussion around activities that have delivered less well than expected
The Intranet allows quick access to key guidance and information and this incorporates TeamSites, the eLibrary, and R4D. The Quest document and records management system allows access to documentation created and received as part of DFID's business activities. Staff can use Instant Messenger and Yammer to allow the sharing of queries and ideas. The GOV.UK Website allows access to DFID's corporate and aid programme information and data. HR, project and financial management systems are also available.

We encourage the publishing of case studies and stories on the intranet, using video where appropriate to encourage interest. DFID has official bloggers that tell their stories on the Internet through GOV.UK. Quest system allows recording of knowledge shared through official business, taking copyright into account.
We have an Information Strategy that is available from GOV.UK and this sets out the processes we operate to meet the cross Government Information Principles. Guidance is provided to staff through our Intranet e.g. on what constitutes a business record that should be saved to the Quest document and records system or key information that should be made available to others. Certain corporate information and data is captured as part of business processes e.g. through our correspondence management system.
We have measured and demonstrated cashable and non-cashable benefits from our KIM programme through agreed outcome indicators. It is more difficult to do so for change initiatives than for projects to implement new systems. We also measure progress against a KIM maturity model.
So in brief we have retrospective reviews of projects after six months. Lessons learned changed into recommendations and published as knowledge asset on the organisation's intranet. Lessons learned are embedded into guidance/guidelines (i.e. lessons learned shared across the organization through changes to guidance on related processes).
There is document management system. In terms of how we in KM help, we create knowledge assets on the intranet and people can get access. These include Guidance; Sampler & Exemplar Documents; Case Studies, Insights & Stories. These knowledge assets are embedded into processes, and into the teams' ways of doing thing. I am moving away from these now, because people don't use them. It's about embedding them so people don't see it as a lesson. This is just part of the way we doing things.
[Key lessons, Guidance, Case Studies, …use of the intranet]. We do storytelling; it's more about storytelling at the reviews. We ask people to go through what happened, what was the impact, why did it happen that way, and what did they learn from it. So that is the sort of process we use. When people have got really good stories to tell we video those, and sometimes when people are not happy to be on video we do an audio recording, and if they are not happy with that we do written and sometimes with photographs to bring it alive one way or another. People seem to take it much more on board.
There two steps to ensure quality. One is in terms of well written valid lessons and that is what we are doing in the KM team. Without being an expert it doesn't make sense to write in detail; we don't write in too detail. It is stand-alone. And then the second step is, is it actually meaningful to the experts and if it is we embed it.
However, if you offer something compelling, and it makes sense and it will benefit them they will do it. For me that was a real shift. I came from the private sector where I will send an email and say do this, do that, and do it now. And that was accepted. Here it is much more nuanced; you've got to sell the KM idea, you've got to demonstrate that it's going to work, and people will come with you. It is very different.
The culture [willingness to share] did help. So really I suppose I used the culture. I have put here [my note] the love of hard data and analysis. They are technical; they are doing huge amounts of analysis the numbers, economic projections. So my KM programme is aligned to have that. I produce graphs, analysis, reports and data, and they like that. Whereas my counterpart that you are going to meet this afternoon, Susan Chan, she doesn't do any of that. She has a completely different style and approach; and you will find it an interesting contrast.
In terms of complexity… the other organizations I have worked for are spread all over UK or are global organizations and there we really rely on knowledge bases that work and that everyone can access and everyone understands, whereas here it is very much more fluid.
The [organisation's] high level aims of KM which is that advice to Ministers should informed by the collective expertise of the organization and every member of staff should be able to access all knowledge relevant to their work, past and present, internal and external, and to use this knowledge in their work.
We also encourage Peer Assist here. The team and teaching meetings also attempt to discuss and address policy challenges.
People are encouraged to explore ways of improving policy; I see this going on all the time. Emails will be going round saying this is what we are doing if you are interested come into the session.
We do this whole thing about benchmarking; that is where we assess the teams and give awards and prizes. There are winners and losers all the time. This is an incentive because nobody wants to come in the bottom of the score; and we are quite 'brutal.

[We create, share and utilise knowledge through] Seminars, Workshops, Lessons learned, Peer Assist, Knowledge Champion Networks, Team Teaching, Stand up briefing, Stakeholders' management [meetings], Use of newsletters and update.
We've been using Sharepoint 2007 for two years and we are about to launch Shrepoint 2010- it's great, everybody loves it. We also have paper records; we still have all of that. For the people side, we've got a corporate directory that is used for expertise location.
We have got a bright and intelligent workforce that wants stimulating activities, so it works very well.
This was an interesting one for me. The quality of briefing is expected to be high. We have a working group called Working With Ministers (WWM). These guys produce guidelines on what makes a good briefing and a good submission.
[Time for KM] is embedded in the way we work. Although a good knowledge champions do set time for knowledge management activities.
So, there are lots of informal meetings. I talked about this weekly team meetings; I don't know when they started but I suspect they are part of the original KM pieces – you need to meet with your team regularly.
People are too busy. So KM is seen as additional work, and even a waste of time. The challenge for me is to make KM seamless and easy at all levels.
I am not asked for [direct] returns on investment. I produce data and matrix on handover, induction, etc. I don't do any calculations on return on investment.
Yes, [our KM strategy] covers everywhere in the organization. It's about a vision and philosophy and we know we've got a long way to go. The change we are trying to make affects the whole organization. Everybody is involved but many people don't know they are involved.
People still look at technology, because it is very tangible, and it's shiny and it feels like a quick fix and it feels logical. But my experience is that you put the technology there but unless people want to behave themselves they don't use it.
Some of them are very simple. We have a People Directory, where you could find people based on their experience and what they do – it contains numbers, names, etc. That is key, because most of the knowledge of the people we cannot document it so… We have a lot of specialists, a lot. And very often the knowledge is there so what we are trying to do is to connect people with the knowledge.
We do try to create new knowledge by cross-fertilization within [the organisation]. We get teams to talk about projects to each other. But generally the quick solution is to bring in a specialist from outside of [the organisation].
We try to encourage the Directors and the Director Generals to espouse openness, sharing and willingness to entertain questions. So we do [encourage knowledge sharing] but that is perhaps the precise thing we do; we are quite a small fish in a big pond.
We've tried some trick to incentivize people, not to change the world. For example, when we launched the new directory we got the Permanent Secretary to endorse a competition known as the Permanent Sec's Directory Race to get people to complete their profiles. People went for it. A box of chocolate was presented to the team with the highest number of completed profiles.
KM workshop is more about philosophy of sharing to get people to think…yes, if this how they are doing it, then I can do things this way. I can tell you a bit more about knowledge sharing workshops. We have who-knows-what workshops.
So the KIM team seeks to build connections among people, create the platform for people to meet and share knowledge, and to encourage people to ask questions.
The principle is about behaviours, values, attitudes; technology and the processes are just enablers.
We are struggling with the ROI at the moment and we are working with proxy measures. And our leadership seems to be comfortable with proxy measure. So, they want to see 70% or 80% of people completing their profiles in the directory, they want to see 80% or 90% of staff using the Document Management System, They are going to continue to fund our workshops if you have about 90% satisfaction (which we do). We have other proxy measures like the freedom of information requests. You cannot answer a freedom of information request accurately, completely and without appeal unless you have access to the information.

You have to have access to the information before you would be able to supply it in time. We have always been above 90%.
The real focus is what our unit is doing – establishing collaborative partnerships with the academic communities, with institutions: academic, universities and funding bodies. There is awful lot of academic partnerships. There are also other networks that we tap into. A lot of the knowledge is done in partnerships. We do a lot of research, analysis, and a lot of synthesis, in our practice, procedure and our professional standards for development and training.
A team member was awarded chief officers' commendation. We do have it in our Units and Performance Development Review (PDR) objective.
I run what is known as research fair. It is basically the concept of knowledge markets; we have done knowledge cafes, after action reviews, best practice transfer. We are using a lot of the KM techniques and tools, but perhaps not tagging them as knowledge management, because we are trying to make them relevant and attractive to practitioners.
We have one of our four objectives of our knowledge strategy is assurance, and is Assuring Knowledge, where we develop labelling for knowledge products. We also try to embed standards based on evidence into our business processes. There are five labels (1 to 5) giving an idea as to how the knowledge object can be relied upon. Officers would have to be more cautious when using a knowledge product labelled '1' than when using that labelled '5', for instance. We do lots of work around labelling and quality assurance.
KM should be about shared learning, continuous improvement. But don't call it KNOWLEDGE MANAGEMENT!
Knowledge management goes across the organization. Because it is to do with everyone; there are no barriers, people may create barriers. But you cannot stop people talking to each other.
We don't see KM as a programme; it is a way of working in [our organisation]. We get people talking about things. It is just creating the awareness. It is more like building confident in people and assuring them that you know more that you think you know, but you just don't know that you know it.
We give people the opportunity to meet new people. We also create a sense of community and make people have fun during our interactions.
We exploit every opportunity for people to bring the best out of them. We create the platform for the artist, the poet to exhibit their talent. This may be not be job related but it creates job satisfaction. Far too often, emphasis is placed on technology. Technology detracts from the conversation; knowledge management is about culture, people. Technology becomes redundant from time to time but people don't. We use storytelling and who knows who; it is not who knows what. Employees are given the opportunity to learn and to know what they want to know. There is a session with the Permanent Secretary for half an hour every week to brief staff and to impart relevant information.
We do have access to Management Information reports as well as run an internal process called "IMIC" Information Management Improvement Cycle where we look at how departments and teams utilise information and make recommendations on how they can exploit information further.
[The KM team] should build on existing system so people do not realize the change. Sometimes it is stealth by stealth.

Table 4.17: KM universe – substantiating codes

Concepts and context

The KM universe has been defined to encapsulate knowledge creation, assuring knowledge, and knowledge capture and retention. The second set of activities includes knowledge sharing, knowledge transfer and diffusion,

knowledge distribution and utilisation. Much of the literature on KM sees knowledge exploring and exploiting and their end products as that which underpin the core competence of today's organisation. The literature suggests that to remain competitive, organisations (or firms) must have the ability to create new knowledge, learn continuously, identify and solve pertinent problems. In this context, Beaumont and Hunter (2002) conclude that, knowledge asset and the knowledge worker have been projected as vital ingredients in differentiating competing firms and providing the potential for a sustainable competitive advantage in strategic development.

Beaumont and Hunter suggest that this view eliminates public sector organisations from the KM arena. They debunk such erroneous impression by asserting that both central and local government, and many public agencies and other organisations, are repositories for heavy concentration of knowledge. They support their claim by noting that public sector areas such as health and education are clearly knowledge-intensive, whether defined in terms of employment or functional activity. This research agrees with Beaumont and Hunter and firmly supports the call for public sector-oriented KM (Woodford, 2003). In this regard, the techniques for exploring and exploiting knowledge as identified in the studied organisations are relevant and must be leveraged to stem the loss and waste of knowledge resources in the public sector, especially in developing economies. Some of the concepts describing the KM universe include knowledge sharing, face-to-face communication, communities of practice, records management system, knowledge assets, labelling knowledge, measuring KM, knowledge champions, seminars, workshops, lessons learned, KM maturity model and corporate repository.

Characteristics

The various approaches to exploring and exploiting knowledge constitute the main knowledge activities in the studied organisations. Each of the approaches and activities has been discussed in terms of its role in KM process and how it

is related to other activities and pertinent issues. In all the activities that lead to knowledge exploration and exploitation, the role of the KM team is to facilitate the attendant processes by ensure that the right practices, methods, techniques, tactics and behaviours are adopted. The team's role also includes the identification and deployment of relevant systems and technologies.

4.3.3.6.1 Knowledge creation

Almost every literature on KM has so much to say about knowledge; its definition, dimensions, application, etc. Hislop (2009) suggests that the creation and development of knowledge represents an important and intrinsic feature of a knowledge worker's work. Knowledge creation activities aim to introduce practices and behaviours that stimulate the creation of knew expertise and competencies within the organisation (BSI, 2005). The KM teams in the organisations studied create the platform for employees to interact and exchange ideas with external experts and professionals as well as collaborate with colleagues from other work groups or policy teams.

The KM team of one of the organisations studied measures knowledge activities through benchmarking. The benchmarking exercises are conducted across teams annually to establish and disseminate KM best practice and deliver improvements to the organisation. Results of each benchmarking report are disseminated to the teams along with action plans and timetable to address shortfalls in their KM visibility and readiness. The benchmarking exercise is a comprehensive assessment of work teams' and groups' adoption and usage of KM practices. The benchmarking exercise is comparable to similar exercises undertaken with private firms.

4.3.3.6.2 Assuring Knowledge

Another important knowledge exploratory activity observed during the study was that in majority of the organisations studied, the quality of the knowledge objects

must be determined before informing policy or embedded into organisational routines. In one organisation, knowledge assets are labelled to indicate their varying 'credibility'. On the other in four organisations, there are special groups of experts who assess the lessons learned and other knowledge artefact. These knowledge assessments are carried out prior to dissemination of the knowledge object ensure that it is usable throughout the organisation.

Lessons learned, new insights and best practices are embedded into the organisation by way of revising policy directives across the whole organisation or passing it on relevant division.

4.3.3.6.3 Knowledge capture

Knowledge capture relates to the methods of making intellectual assets explicit (BSI, 2005). Knowledge capture prepares intellectual assets for reuse and learning. The KM literature presents two strategies for capturing intellectual asset – codification and personalisation (Hansen et al, 1999). Codification strategies are technology-led while personalisation strategies are more about people and less about technology. Codification of intellectual assets involves the use of large databases to store knowledge. Knowledge from projects and other sources are held as knowledge objects and stored in knowledge bases; and retrieved as and when needed. Codification affords large-scale knowledge reuse and so prevalent among large consultancy firms.

Championed by Bain (1956), personalisation strategies emphasize developing people through brainstorming exercises and face-to-face communication. In this case, knowledge will be captured (pass on from one person to the other) via dialogue in the form of conversation over the phone, email or videoconferencing. Personalisation focuses on networking within the organisation to identify and keep people with requisite knowledge within reach.

In the organisations studied, personalisation strategies dominate as majority of the KM teams view knowledge management as being more about people,

behaviours and less about technology. Techniques used to make tacit knowledge explicit include storytelling and brainstorming sessions. In one organisation, when people have really good stories to tell, the session is captured on video. One organisation uses lessons learned databases to capture knowledge.

4.3.3.6.4 Knowledge sharing and utilisation

Organisations make the most of their intellectual assets by encouraging knowledge sharing. Making knowledge easily accessible with the help of technology or connecting people, both formally and informally, is necessary for effective knowledge sharing in organisations. Furthermore, embedding best practices and lessons learned into organisational routines leverage knowledge utilisation. The benchmarking exercise conducted by one of the KM teams was the best technique identified as having the potency to consciously encourage, support and embed sharing and utilisation of intellectual assets. Knowledge sharing and reuse can save organisations substantial costs in terms of minimising or preventing knowledge reinvention, and helping to meet service and policy delivery targets.

Majority of participants emphasized the importance of connecting those who want to know with those who know. In one of the organisations studied, the KM team has created skills directory on the organisation's intranet so that employees can easily identify colleagues with relevant expertise. Induction, cross-team projects, after-action reviews, knowledge fairs, team teaching and communities of practice are some of the channels through which intellectual assets are highlighted, share and its utilisation encouraged in the studied organisations. Sharing knowledge with stakeholders is also encouraged through events such as workshops and seminars.

The study discovered that effective knowledge sharing is impeded where divisions within the organisation had been part of different organisations. In such a 'cosmopolitan' organisation, employees see themselves, first as part of

their division, and secondly, as part of the organisation. This condition is further worsened by the unpredictable policies of government, which can result in re-alignment of divisions and policy areas within public sector organisations. In their attempt to remain relevant and to be seen to independent and mobile, division may be unwilling to share knowledge. In the extreme case, volatile condition may result in conflict. Power-knowledge relationship may exist between divisions that see themselves as competitors; where the one can perform the functions of the other.

4.3.3.6.5 Knowledge transfer and diffusion

Knowledge creation, sharing and utilisation will be much inhibited if access to internal and external knowledge assets becomes difficult. Transferring and diffusing knowledge can take one of two strategies: codification and personalisation. When intellectual assets are captured and held as knowledge objects in systems, the knowledge is codified. In this sense, knowledge repositories or knowledge databases become the sources of knowledge and from them knowledge is transferred and distributed across the organisation. As aforementioned, codification enables utilisation of large-scale knowledge resources at any particular time.

Personalisation strategies encourage the use of people in the knowledge transfer and diffusion process to ensure that richer knowledge and expertise are transferred. Some of the organisations studied have knowledge repositories for distributing knowledge. There was, however, a general affinity for personalisation strategies. The KM teams see themselves, first and foremost, as facilitators of employee connectivity.

There are several interventions that promote knowledge exploration and exploitation. Knowledge artefacts created, distributed and reused must be high in quality and in plenteous supply for organisations to benefit from them. In the organisations studied, knowledge is created through internal and external collaboration. Professionals and experts from outside the organisation are

hosted by way of scheduled events such as workshops, conferences and seminars. Internally, activities such as after-action reviews, retrospective reviews, team teaching and knowledge fairs (cafes) bring employees from across the organisation together to exchange experiences and insights. From these activities best practices are collated and embedded in processes, policy-making and service delivery.

As employees access external and internal expertise and skills their innovative and reflexive prowess are stimulated. Further insights or new knowledge emerge as these interactions go on. Knowledge creation is also enhanced by embedding knowledge creation mechanisms in core business processes, providing open access to organisational knowledge resources and establishing collaborations with external knowledge providers including universities, policy analysts and think tanks (Kandadi, 2006).

The KM literature points to two organisational elements that have the potential of institutionalising knowledge creation – organisational learning and innovation. According Fiol and Lyles (1985), organisational learning means the process of improving actions through better knowledge and understanding. Underpinned by individual and team learning, organisational learning entails the embedding of successful actions in organisational routines. Thus, encouraging organisational learning will mean continuous improvement of organisational routines through knowledge exploration and discovery. Van de Van (1986) defines innovation as the development and implementation of new ideas by people who over time engage in transactions with others within an institutional context.

There was a perception of organisational learning among all the studied organisations as the determination to embed best practices into organisational routines was amply visible. However, only four out of the seven organisations studied showed signs of encouraging innovation. The study depicts that there is a direct relationship between innovation tendencies and knowledge intensiveness of an organisation.

A critical observation in the study has been the role benchmarking can play in knowledge stimulating the approaches to knowledge exploration and exploitation. Public sector organisations that want to entrench KM practices in their routines would have to embrace benchmarking as a mechanism for grooming work groups and teams up the KM maturity model.

Application to the Ghanaian KM Context

Acquisition: The approaches to knowledge exploration and exploitation are the core activities in the KM initiative. Failure to adopt the right approaches to knowledge creation, knowledge capture, knowledge sharing, and knowledge transfer/diffusion will frustrate any attempt to institutionalise KM in public sector organisations in Ghana. Knowledge creation activities such as after-action reviews, retrospective reviews, team teaching, among others, must be introduced cautiously to forestall their being interpreted as 'additional work' or burden by employees.

Effective evangelisation of KM benefits to individual employees and to the organisation as a whole will reduce resistance and uncooperative attitudes. Top management's consenting posture and support by way to policy changes to accommodate KM will go a long way to engender acceptance.

Absorption: Benchmarking KM activities can serve as a strategy for grooming public sector organisations or work groups/teams with them into KM maturity. The approaches to knowledge exploration and exploitation will be quickly assimilated if the organisation adopts the benchmarking exercise. Once legitimised, some based knowledge activities will become routine and required. Introduction of schemes to recognise and reward knowledge culture will encourage and stimulate the culture.

Research Participant View

Generally, public servants of today are interested in career development and acquisition of higher degrees. The problem is that the work culture does not allow for innovation and application of modern tools and techniques.

Public servants [in Ghana] generally have a good attitude towards learning.

4.2.3.4 Business Activity

The public sector carries out its business activities at three levels – policy-making, organisational processes and service delivery (BIS, 2005). Policy-making involves defining the framework for decision-making in the public sector based on defined goals and accountability. Translating public policy and decision-making effectively into work programmes and tasks for public servants constitute organisational processes. Providing services to citizens efficiently and fairly within the policy framework set by central and local government is the third tier of public sector activities. Together they represent the value chain of public sector activity and one way of targeting KM initiatives is to align them with this value chain. Figure 4.2 shows how a KM intervention can target the value chain of public sector activity for a more transparent identification the possible benefits and costs anticipated for specific KM interventions (BIS, 2005).

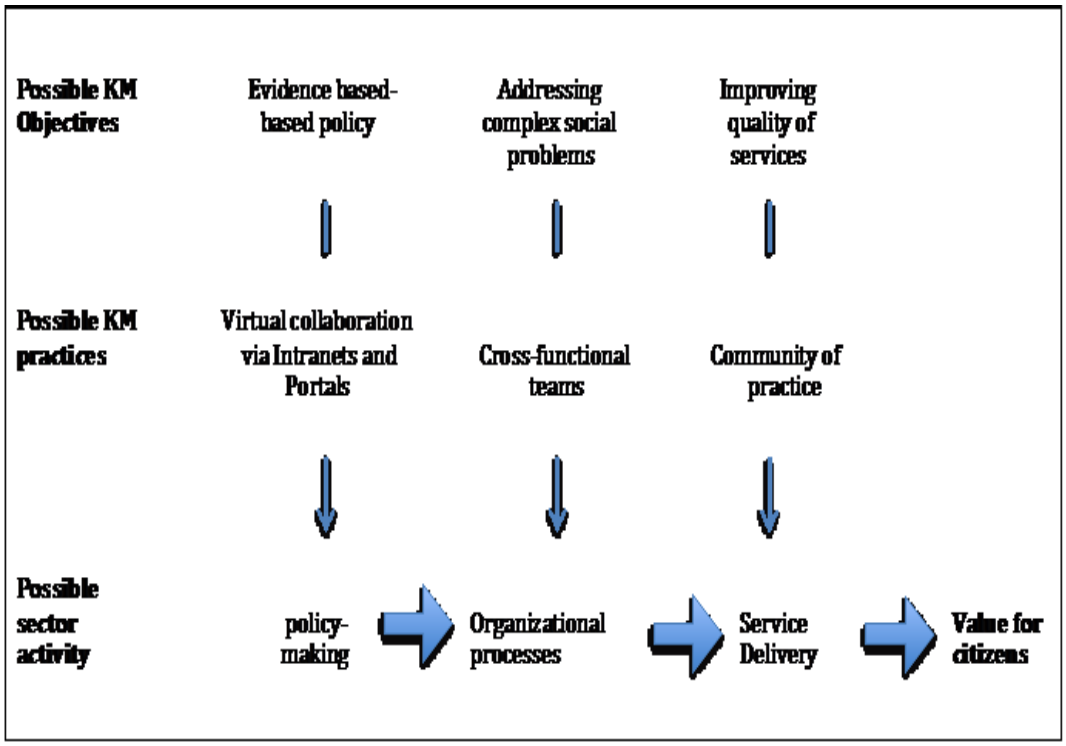


Figure 4.2: Optimising the value chain of the public sector (Source: BIS, 2005)

The substantiating codes for Business Activity are provided in Table 4.18. The following segments elaborate this factor.

BUSINESS ACTIVITY: Substantiating codes
Yes, [our KM strategy] covers all functional areas; but some areas are more integrated into the Strategy than others. It encompasses activities carried out in Business Solutions Division (BSD) (including IT); Research and Evidence Division (including Evaluation); Policy Division and HR Learning and Development.
[Our business activities involves] Managing our programmes and projects (business planning, gathering evidence, implementation, evaluation, reviews of progress etc.), · Providing and making policy, Managing the research that we fund, Dealing with official correspondence. The aim is that KM activities should be integrated into our business processes
[Our KM strategy] has until now covered projects and programmes. Discussions have been held as to whether it should cover Services as well. We also looking at spreading KM across the central functions; HR, Communications, etc.
We are putting down a system where once lessons have been recorded it goes to a central body, which is quite senior experts of the organization and assess whether they are useful and if it is, they take that lessons and change the existing guidance on how to carry out.
I have put here [my note] the love of hard data and analysis. They are technical; they are doing huge amounts of analysis the numbers, economic projections. So my KM programme is aligned to have that.
The organisation's high level aims of KM which is that advice to Ministers should informed by the collective expertise of the organization and every member of staff should be able to access all knowledge relevant to their work, past and present, internal and external, and to use this knowledge in their work.
We don't have monetary incentive. We don't have money to spend on things like this. Staff are willing to share knowledge they appreciate the value. They participate in networks, etc. The length of time imposed encourages finding out what is happening in other areas. It encourages you to talk to other people who have had the job. And also because you are going to move on, you always want to know what else goes on in the organization.
We are a very consultative organization. Groups of people will consult and consult and make collective decisions. We are much a knowledge organization. We don't recognize knowledge sharing in a monetary way. In performance appraisal we are meant to, but it doesn't really work.
We have just moved to MySite 2010 (which is part of Sharepoint) which has got features like 'Ask Me About'. So I can say ask me about Knowledge Management, Content Management; and someone can search and ask me about those. The questions go to my notice board and pings me in my email as well. On here we are asked to record our skills and expertise so others can use us.
The organisation produces knowledge products. The products that we produce are briefings to Ministers or submissions. Questions are asked, and we are asked to prepare some information on a policy and all that goes into the document. I guess within processes we document knowledge as well - the Autumn Statement, the Budget, Spending Reviews. And now there is a database set up within Sharepoint where all the measures for the budget are pulled together. All of the advices going to the Ministers get signed off at various stages and developed.
This was an interesting one for me. The quality of briefing is expected to be high. We have a working group called Working With Ministers (WWM). These guys produce guidelines on what makes a good briefing and a good submission.
We don't have a team of experts to certify knowledge products – briefings and submission. I guess once you know you are writing to the Minister you will give off your best. It would be a huge embarrassment if you get it wrong. Briefings and submissions are signed-off by a range D Leader [Head of Directorate].
[Our core business revolves around] Policy and Development, Briefings, Submissions, Correspondence (We

have huge correspondence from the public and there are standard guidelines for dealing with that), PQs (Parliamentary Questions), Consultations, etc. Effective storing and re-using of contents- so for PQs all the answers would be saved and would be recycled for correspondence
The directory is designed connect people up by what they know and where they work.
We are encouraging people to ask questions, and that is how we are trying to integrate KM activities into the policy teams.
For [our organisation], all functions are pretty much knowledge based. Knowledge sharing and some KM practices are fundamentally part of the business processes of the [the organisation]. Knowledge sharing techniques are embedded in routines.
You got to put in the effort, build the knowledge champions, etc. We also have to let people know what is in it for them. Make it relevant to their role and if they can see it in context then it makes more sense to them and they are more likely to buy into it.
Our functional areas include Policy, Constitutional (elections, boundaries, online voter registration, etc.), Corporate Services (HR, the KM, Finance, Estates, etc.), Commercial (all government procurement services including EU rules, etc.), Projects (major projects including High Speed Rail lines across UK, etc.), Foreign Policy, Etc. We seem to be the centre; we have overview into all government departments and so we are at the centre.
The aim is to integrate the KM functions and [those of the organisation] so that we can say 'this is where we are and this is what we are doing'. In the main people aren't thinking about knowledge management, they think about how to do their job better.
[KM] has brought a strong collaborative working relationship within our internal departments where we focussed on how we manage information. Where it was clearly crosscutting this has avoided duplication and enabled us to re-use knowledge where appropriate.
[KM] enables us to meet targets; it helped us manage the security around the London 2012 Olympic Games!
Because of the constraints of using external consultants and the fact that they do not impart the knowledge, we are in the process of training our own professionals, mostly in the areas of Finance and IT.
The private sector is concerned about profit and delivery; we are concerned about delivery.
I have written down case workers; anyone who does case working, that is very intense, they use a lot of knowledge and information they use to make their decision

Table 4.18: Business activity – substantiating codes

Concepts and context

The business of public sector organisations is not profit oriented yet must be delivered efficiently and effectively. The government may introduce reforms to re-echo this fact, among other objectives. Whether it is service delivery, policy-making or routine organisational processes, the role of KM in the sector is to optimise these activities by enhancing knowledge flow. In essence, KM seeks to enhance these activities, which represent the value chain of the public sector so

that policies and decisions are effectively translated into value. Concepts gleaned from the corpus of data that describe this factor include policy teams, policy-making, policing, providing policy, freedom of information requests, parliamentary questions, Immigration, Organised Crime Agency, Security Services.

Characteristics

A large proportion of an organisation's knowledge lies within it business processes or activities. Enterprise knowledge is enhanced when knowledge intensive processes (KIPs) are optimised with KM practices. The study showed that policy-making is the most knowledge intensive process in the public sector. The knowledge intensity of policy activities is further heightened by the government's demand for evidence-based policy- and decision-making. Policy teams in the studied organisations are very active part of KM initiative and their commitment to the KM activities attests to their need for knowledge to improve their output.

Optimising the business activities and process through targeted KM practices can lead to direct savings in terms of cost and time. Where these savings are quantifiable, the KM team can reckon them as return on the resources committed to the KM programme. These tangible savings and other long-term intangible benefits (e.g. improved employee and organisational learning, customer satisfaction) may be presented as the business value (or the value addition) from the KM programme. The extant KM literature is unequivocal in admitting the challenge of KM teams to demonstrate the business value of KM. The challenge is exacerbated by the fact that most of the benefits from KM are intangible and observable in the long term. Many KM programmes have been scrapped because of the failure of KM teams to justify, tangibly, financial resources committed to the KM initiative.

It is against this backdrop that KM experts advise KM teams to categorically communicate the intangibility and long-term nature of KM benefits to top

management before the KM programme commences. This means that, expected benefits from the KM programme should be marked as long term and may include enhanced employee collaboration, improved innovativeness and creativity of employees, customer satisfaction and creation of a more cohesive workforce). KM teams can conduct satisfaction surveys involving employees and customers to measure the impact of KM on their experience.

It was instructive that none of the KM teams in the organisations studied was pressured by top management to explicitly show the benefits from the KM programme. From those organisations where the KM teams' jobs are visible and all-encompassing because of their benchmarking and other organisation-wide exercises to those where the team felt its core duty was simply to connect those who want to know with those who know, there was no indication of top managements' desire to be meticulously informed about the impact of the programme on performance.

That notwithstanding, some of the KM teams are picturesquely depicting the value from KM. Could this be a public-private sector divide? – Top management in public sector organisations are more tolerable of the intangibility and long-term nature of KM benefits than their private sector counterparts.

Apart from highly sensitive divisions of government whose business knowledge may not be exposed (and may be manage 'privately'), activities that constitute the value chain of the public sector generally benefit from the knowledge flow within the organisation as well as external expertise in an open way, both formal and informal. To ensure that the KM programme is aligned with the goals of the organisation, the KM strategy must actively manage the knowledge of the business activities. Managing the process knowledge will enable appropriate techniques to be developed to optimise these activities and processes and to pre-empt knowledge hoarding.

In the organisation studied, some KM teams document and analyse the business activities and devise appropriate KM practices to leverage them and to identify and capture relevant knowledge. In one organisation, work-groups are

required to induct new recruits, request handover notes from exiting colleague, reuse best practices they have identified, etc. To leverage these practices to improve policy-making, the KM team has developed appropriate KM strategies, which are measured at group and team level through benchmarking exercises. Work-groups are recognised and awarded to encourage knowledge culture.

Application to the Ghanaian KM Context

Prevalence: Public sector organisations in Ghana are no different from their UK counterparts in terms of their overall mandate and the business activities that constitute the value chain in the sector. The ministries, departments and the agencies that constitute public sector organisations are involved in policy-making, organisational processes and service delivery. The core business activities are well documented and understood by employees in some of these organisations, while in other documentation of these activities leaves much to be desired. In situations where business processes are ambiguous, employees may not be able to determine relevant knowledge and skills needed to perform their duties effectively.

Performance appraisals are supported to access employees' competence and skills needs but they rarely lead to the provision of the requisite skills and competencies. Sometimes the budgetary requirements for the provision of these skills may be daunting and so may not be forthcoming for a long time.

Some public sector organisations are distributed with similar divisions and work teams spread across the country. Best practices emanating from the core business activities are not shared. The results have been differing performances and consequent disparity in quality of service provision to the citizenry.

Factors such as recruitment, knowledge culture of superior, lack of team teaching and after-action reviews, and inadequate events (internal and external) to expose employees to existing and external knowledge resources have

profound impact the conduct of business activities in the Ghanaian public sector.

Promotion: A major aim of KM in public sector organisations in Ghana would be to optimise core business processes. As aforementioned, an organisation's business activity is an important factor in the KM programme. A clear understanding of the business processes is required to enable appropriate KM strategies to be developed to improve knowledge flow and hence optimise these processes. The KM programme should also determine the best strategies for the organisation – whether codification or personalisation strategies.

Given the budgetary constraint and the low level of digitization in the sector, personalisation KM strategies are likely to be readily received by top management. Once top management support is secured, KM practices that are likely to achieve the following should be pursued:

- Clearly documenting business activities to identify knowledge intensive processes
- Identifying and capturing process knowledge
- Sharing and reusing knowledge-leveraged processes
- Stimulating the creation of new knowledge to optimise business process or stimulating innovation
- Improving process knowledge flow through realigning functions, operations or other
- Documenting benefits from optimised business processes
- Embedding the KM practices in the core business processes

It is recommended an incremental approach be adopted in optimising business activities. In this wise, piloting a division instead of the whole organisation, or piloting a unit within a division would be appropriate so that challenges are addressed and lessons learned are embedded while the KM initiative expands across the organisation.

Research Participant View

The Ghanaian public sector lacks people skilled in writing policy formulation.

4.2.4 Infrastructure

Participants in this research have highlighted the notion that technology, in whatever form or shape, predominantly functions as an aid to the KM processes. While it has been argued earlier that both systems approach (codification strategies) and management practice approach (personalisation strategies) are relevant to KM practitioners (BSI, 2005), the study clearly shows that systems-led KM is not the way to go in the public sector. Throughout the study, participants emphasized that KM is about behaviours – instilling knowledge behaviours to leverage employees' work: to collectively ensure efficient and effective delivery of support to the Executive and services to the citizenry. It can thus be inferred that, the participants had practice-based perspectives on knowledge.

According to Hislop (2009), writers who have a practice-based perspective on knowledge believe that codification and storage of knowledge in ICT-based repositories is unlikely to result in useful knowledge, as such knowledge is devoid of the tacit assumptions and values that underpin it. Hislop further asserts that, they see ICTs' role in KM as indirect – facilitating and supporting the social relationships and communication processes which underpin knowledge processes.

The 'Infrastructure' factor also includes physical infrastructure or the physical work environment of employees. The KM literature emphasizes the role of ICT (systems and applications) but the contribution of the physical infrastructure is mostly ignored (Kandadi, 2006). The study has revealed that the office layout and the building infrastructure can enhance or inhibit knowledge sharing among employees. The substantiating codes for this factor are provided in Table 4.19 followed by elaborative description of the role of technological and physical infrastructure in KM.

INFRASTRUCTURE: Substantiating codes
The Intranet allows quick access to key guidance and information and this incorporates TeamSites, the eLibrary, and R4D. The Quest document and records management system allows access to documentation created and received as part of DFID's business activities. Staff can use Instant Messenger and Yammer to allow the sharing of queries and ideas. The GOV.UK Website allows access to DFID's corporate and aid programme information and data. HR, project and financial management systems are also available. KM tends to be seen as systems based so we often communicate what we are doing using different terminology e.g. lesson learning and knowledge sharing. We've been using Sharepoint 2007 for two years and we are about to launch Shrepoint 2010- it's great, everybody loves it. We also have paper records; we still have all of that. For the people side, we've got a corporate directory that is used for expertise location. So from these tools we can share documents; I sent links to all my 66 champions and….. I must say that all these knowledge products are saved religiously. We have a huge Sharepoint database aligned to cater for each area of policy. Our IT is in poor state. Our corporate repository is unreliable. Everybody is excited about Sharepoint. We have the intranet, which contains all the guidance for staff. We have the wiki which is all part of it, which is much more scientific, evidence based and statistical. Then we have the EDRMS (Electronic Document and Records Management System) for storing and this is where people are expected to go and look for information; and of course a Directory. I must reiterate it is behavioural. Tuning technology to fire up existing behaviour, that is great! Technology becomes redundant from time to time but people don't. There is the Civil Pages platform, which is a kind of collaborative space. Again, it is used very rarely. We have access to the internet so we can access any government site. We do have quite a lot of limitations here on what we can access due to security. For instance, we cannot access social media through our official account. So sometimes there are discussions and we cannot join in. For the KIM profession we have got pages our intranet that is where our manual would go. Ideally it should be a two-way thing where people can go on and say 'does anybody know…' but it doesn't work like that at the moment. It will be quite nice for you to come back in five years' time to ask the same questions again. It is quite a good pointer, I think, for us for some of the things we need to be doing. We have breakout spaces in this building, which anyone can use. The intention when we moved into the building was that there would be somewhere staff can sit and talk and exchange ideas, but it ends up being used for [official] meetings because we don't have enough meeting rooms.

Table 4.19: Infrastructure – substantiating codes

4.2.4.1 Technological Infrastructure

The KM literature is replete with different component technologies for capturing, organising, storing and sharing new knowledge. Participants noted the essential role of these technologies in their KM programmes. Sidestepping the behavioural intricacies, the main challenge of technology in the studied organisations has been one of complexity or obsolescence. Participants

lamented the not-fit-for-purpose state of some of their technologies, which were taking too long to replace. A participant expressed concern about the over-engineering of some of the IT solutions designed for their KM, which usually meets resistance from employees. Table 4.20 provides the substantiating codes for this factor. The role and importance of technology is discussed below.

TECHNOLOGICAL INFRASTRUCTURE: Substantiating codes
[Through KM] We are making better use of existing information management tools. We are improving our information management systems and processes and where necessary developing new systems.
[We have] Digital communications: professional and corporate networks and communities of practices. Electronic systems: Intranet, Evidence and Programme Exchange, TeamSites, Quest Document and Records Management system, Yammer, Huddle, Collaborate
[Our] new electronic resources aims to help staff share evidence, good practice, evaluations, etc. and to encourage discussion.
eLibrary is available to allow access to published information for which we do not hold the opyright. Links to knowledge on the Internet are included in Intranet content, TeamSites etc.
[Our organisation] is a dispersed across over 20 countries. There are poor telecoms links to some overseas offices.
There is document management system. In terms of how we in KM help, we create knowledge assets on the intranet and people can get access. These include Guidance; Sampler & Exemplar Documents; Case Studies, Insights & Stories. These knowledge assets are embedded into processes, and into the teams' ways of doing thing. I am moving away from these now, because people don't use them. It's about embedding them so people don't see it as a lesson. This is just part of the way we doing things
We are a very technological organization; and because of that people over-engineer IT solutions. So we want a database for a particular process… and they end with a solution that is so complex nobody is going to record into it…
We have tools to [monitor KM activities]. The corporate repository from which you can see who has made changes, there is version control, and check in, check out and sharing bits.
This small size is an advantage. I will tell you what, our IT is very weak but because we are not a global organization we don't rely on the tools as the only way of sharing.
In terms of complexity… the other organizations I have worked for are spread all over UK or are global organizations and there we really rely on knowledge bases that work and that everyone can access and everyone understands, whereas here it is very much more fluid
We have got a corporate repository, and that is designed for work in progress. It is really lousy. We are moving over to Sharepoint.
The access to our external research resources is all done via our intranet as well.
We have got a corporate repository in place, but it horrible; I don't use it
We are moving to this whole Sharepoint platform where our intranet is sharepoint, lots of our in-house tools that we developed in weird applications are moving over to Sharepoint.
People still look at technology, because it is very tangible, and it's shiny and and it feels like a quick fix and it feels logical. But my experience is that you put the technology there but unless people want to behave themselves they don't use it

So the directory is very important. I think we have to maximize that – getting people to put in more and more information
The other thing is a new intranet with a search engine. We had an old intranet. it was old fashioned. It was the corporation's way of speaking to its staff, which is one way, so you have to know where..search through a hierarchy. This new one is much more interactive and if there are gap it becomes obvious.
I will say that all our documented knowledge is supposed to be stored in the document management system. Not everybody obliges because it is very…it is not a nice system. Once upon a time it was very good. For some reason it has not been updated; it is old fashioned. People use sharedrive and harddrive and so on and so forth
The directory is designed to connect people up by what they know and where they work.
A lot of the electronic services we use are shared services. This mean another department owns it and we buy into it. We cannot decide on the file plan, we cannot configure it and we can't change the way it operates. That is one of the reasons we are getting rid of it.
So we have to be careful if one person is in charge of IT and KM. The fact that he is in charge of both it is easy to curb knowledge sharing. When you use technology in knowledge sharing we want IT to be subservient
Work in the college now is to align these platforms into one. Officers will just put in their search [term] and the system will look at the POLKA, the online library and the other platforms
The size does not pose a challenge. The challenge is the disparate systems we have inherited from the different groups that have come together under Cabinet Office.
We have got the intranet, corporate directory, electronic data management system (EDMS)
Far too often, emphasis is placed on technology. Technology detracts from the conversation; knowledge management is about culture, people.
We have online skills directory.
We have corporate repository, we have an intranet (several across the different groups). We have a staff directory, which now has a skills element to it so people can take note of relevant skills they can access.
We have a corporate repository. Where we store key business decisions…The former UK Border Agency had a formal interview process to capture knowledge during redundancies.
We have tried to identify business critical information. I don't think there is a process in place to determine the quality of knowledge from a community of practice. I don't think there is a system in place in the Home Office to formally diffuse 'new knowledge'. We still give people freedom to work out how they want to work. We did have a lessons learned database. That is one way we have captured stuff
Technology isn't the answer; it is all about behaviours.

Table 4.19: Technological Infrastructure KM factor – substantiating codes

Concepts and context

The role of technology cannot be overemphasized in the KM literature. In fact, KM can broadly to be classed into technology-led or people-led. Appropriate systems have evolved to optimise knowledge exploration and exploitation

activities. Despite the advances made in technology, the fact still remains that technologies on their own cannot manage knowledge. It is against this backdrop that participants in the study argue that the facilitation role of technology must be secondary to the behavioural intent of knowledge management as a management strategy. Concepts that describe the Technology factor include knowledge repositories, skills directory, intranet, police online knowledge area (POLKA), videoconferencing, knowledge hub, Mysite, sharepoint, electronic data management system (EDMS), corporate repository, eLearning, eLibrary. IT solutions, TeamSite, Quest Documents and Civil Pages.

Characteristics

The role of technology as an enabler to the KM process is well documented in the research. KM systems and technologies vary in terms of components and functionality, but they may be organised according their ability to perform a knowledge function such as organising, capturing, analysing, storing and sharing knowledge (Jashapara, 2004). KM systems in each of these groups were prevalent in the studied organisation. The 'subservient' role of technology in KM is affirmed by Jashapara (2004) who asserts that the predominant KM tools used today tend to focus on explicit knowledge and its reworkings even though the received wisdom acknowledges that it is the tacit knowledge or 'know how' that leads to greater effectiveness in organisations.

Participants acknowledged that the KM programme might fail if technology is not accompanied by the appropriate knowledge culture. Thus, KM teams in the studied organisations commit quality time to connecting people and improving knowledge behaviours.

None of the studied organisations had virtual work groups or facilities for virtual working. This may be explained by the absence wide (global) geographical spread of work groups. A KM tool that was rated highly by participants was effective search technologies. These technologies enable employees to search

for appropriate explicit knowledge or other employees who may have knowledge relevant to their work.

One important factor affecting the acquisition, absorption and continuous use of KM tools is funding. Acquiring up-to-date technologies involves huge financial commitment. The capital outlay for procuring some KM component technologies is prohibitive; sometimes even for maintaining them. In a number of the studied organisations, technological obsolescence was a common feature. Document management systems and intranets have ineffective due to lack of maintenance. Where their replacement has been promised, participants noted the deafening silence from top management. A participant philosophised that: ***technology becomes obsolete; people don't***. Defending this viewpoint, the participant noted that once appropriate knowledge culture is nurtured and connection (networking) is maintained, people will always be available to interact and to share their knowledge, whether in the organisation or not.

This research concludes that priority should be given to developing and nurturing appropriate knowledge culture in any KM initiative. When this priority is established followed by the engagement of suitable (simple and user-friendly) technologies, the KM programme will not only be cost-efficient but will have an enduring life.

Application to the Ghanaian KM Context

Prevalence: A major setback in the Ghanaian public setting over the past few years has been the the lack of adequate supply of computing equipment for the day-to-day business. Only a handful of public sector organisations have a computer-employee ratio of one-to-one. Of the twelve organisations from which public servants and public administrators were drawn for this research, just about six had no deficiency in computing equipment for its staff.

The availability of KM tools such as those for sharing, creating, storing and capturing knowledge is minimal. Only highly technical and knowledge intensive

organisation like the Ministry of Finance and the Central Bank of Ghana can boast of a couple of these tools. Most of the wider public sector organisation serious challenges as far as technology are concerned.

Promotion: With the support of its development partners, including the World Bank, The Government of Ghana is deploying a nation-wide ICT infrastructure under the ICT for Accelerated Development policy initiative. It is expected that in a few years to come, Government Ministries and Departments would be able to uninterrupted internet connectivity, a shared platform to run hosted applications and virtual private service provided by the National Information and Communication Technology Agency (NITA).

Under a Public Private Partnership (PPP) between the Government of Ghana and GCNet Limited, the GeGov Project was launched in May 2010. The project will finance the design, build, operation and transfer of a modern e-Government system for Ghana Revenue Authority (the revenue and customs agency in Ghana) and the Registrar General's Department (the agency dealing with business registration).

These projects will improve ICT acquisition and use within the Ghanaian public sector in the long run. Government ministries, departments and agencies (MDAs) would have to take advantage of the e-Government project to enhance their connectivity to the Internet.

It should be the aim of KM initiatives in Ghana to enhance public servants' confidence in the use of ICT for their day-to-day tasks. There is a generation with 'ICT-phobia' within the Ghanaian public sector. Until the sector rids itself of this group of workers through natural attrition or such workers are persuaded and confidence inspired in them, KM teams would have the added duty of offering ICT training, to avoid any form of resistance when even basic KM tools are introduced.

Research Participant View

Please, don't leave this initiative with IT developers and consultants – it is not the answer.

We have a pilot data centre where we store all the services. Currently, we are providing email service as well as active directory services for Government Ministries, Departments and Agencies (MDAs).

We also have the shared platform for MDAs where Government Departments, for instance, can remotely run certain applications.

Culture is the biggest challenge for us. [If public servants see these systems we are deploying as 'interfering with their personal gains that accrue when they do thing manually, then they might kick against them].

One of the things we have done is to train e-Leaders and e-Champions to forestall this happening. E-Leaders include Members of Parliament, Judges and senior public servants who would help sensitise their staff to accept these changes. The e-Champions are the technical managers who will help deploy the systems.

4.2.4.2 Physical Infrastructure

Further to participants' assertion that KM is 'more about behaviours and less about technology', they conceded that the physical work environment could have a major impact on the KM process as promote employee collaboration. In a classical case, a participant related the utter embarrassment when a Director in the same building was taken for a visitor, even though the Director had been there years before the participant joined the organisation.

Unlike technological infrastructure which can more easily be modified to enhance KM activities, employees' physical work environment is sometimes more difficult to modernise to promote knowledge culture. This may stem from lack of additional spaces for expansion or inability to relocate the organisation. Table 4.21 provides the substantiating codes for this factor followed by a more detailed discussion of its features.

PHYSICAL INFRASTRUCTURE: Substantiating codes
[Our] face-to-face communications include seminars, conferences, AwayDays, after action reviews, peer learning, and use of discussion spaces provided in the organisation's buildings.
Both our main UK buildings have open plan offices and informal meeting areas where knowledge can be shared. The infrastructure of overseas offices varies but they may be co-located with partners, which encourages sharing. Some staff are out bedded into e.g. multilateral organisations so again sharing may be enabled.
We are in different buildings…People don't come across each other. A lot of people don't know each other. I met one of our directors last week and I thought he was new to the organization, I had no idea he'd been here longer than I have. It is not a very good physical environment for people to actually run into each other…
We have open plan offices. But there are small floor and people don't pass enough. This is the kitchen; one end on each floor. Everybody knows each other on that floor but may not know the people above and below or in the other building. Obviously our infrastructure is horrible for knowledge sharing. Accidental conversations don't happen very much. Sometimes they do, but not very much.
I heard a story about desk award [Knoco KM Consultancy]. There's an award that goes from one desk to another. It will be on one person's desk this month and people will ask what did you do? Then it goes to the next person the following month. Because of the layout of our offices, they wouldn't see it.
So there are very close relationships. Even we share this building with another Government department, and so people are coming in and going out all the time
We are a small organization of about 1,100 employees. Almost all of them are in this building and so it is easy to get to people. I think it benefits KM having a small size. People know each other and build up relationships very easily. There are lots of opportunities to meet informally and this supports our informal working style
Our building looks huge from outside but we occupy only two floors, primarily and I can walk round all the offices
There are breakout area and tea…Yes; it has a very open door.
We don't have many meeting rooms, but there are lots of breakout areas. It's really nice, some colour coded. So you can say to someone meet me at Three-Red or One-Yellow and we'll have a cup of tea and a chat. I think that's really good
We have the open-plan layout. Generally, we have open-door policy but I would suggest that different leaders have different styles – some are open, and some are…. I have come across a very senior person who would like to be called 'Mister'. So, in principle, open door, in practice, huge variation
Yes, open plan but our physical infrastructure is a big problem. We are growing very fast and our office buildings are scattered – several places in London and Aberdeen. Our office infrastructure does not encourage contact between staff. .
The open plan does facilitate knowledge sharing to some extent. We have the open plan in our London offices. We also have what we call the hot desk policy so people don't have their own desk
We have break-up areas, quiet areas and shared desks. We have all the facilities to engage workers in productive interaction
[In our organisation] we have open plan with few individual offices. This physical infrastructure generally helps with knowledge sharing – long walk ways connecting all the buildings, TVs screen throughout the building with external channels as well as displaying internal messages, breakout spaces, etc. We don't have hot desks. We do have home working as well.

Table 4.21: Physical infrastructure KM factor – substantiating codes

Concepts and context

The behavioural dimensions of KM are enhanced when employees work environment facilitate interaction, particularly, informal face-to-face communication and meetings. There are only a few instances where physical structures are purposely built for certain types of jobs. Apart from some highly scientific medical and technological undertakings, most business activities can be carried out in any general-purpose buildings. Furnishing can easily be changed or modified to suit particular requirements if needed. But the physical structure can hardly easily be expanded as the case usually may demand.

One factor that affects KM but over which the KM team may have little or no influence is the physical work environment. KM teams should be creative and improvising when the physical work environment appears to undermine their efforts. Concepts that describe the factor include: open plan office layout, easily accessible spaces, meeting rooms, hot desks, communal areas, mounted screens, in-house restaurants and cafes, open door policy.

Characteristics

Participants readily acknowledged the role their work environment can play in fostering close working relations among employees. In organisations where there are ample facilities for both formal and informal meeting between employees, participants were quick to point to their mediating role in the KM process. Some participants had issues with their work environment. In one case, the structure of the office unit encouraged policy teams to remain siloed. One participant lamented with awe when a Director was mistaken for a visitor because they have not met before in the office building due to the way their building is structured (The Director had been around two year before the participant joined the organisation and the incident took place more than a year in the organisation).

The story is not all bleak for the studied organisations. Some have office spaces where employees can readily access colour-coded open spaces and meeting rooms; so an employee can invite a colleague to meet him/her at “Three Red”, that is, third meeting room labelled red.

Participants indicated that the layout of their offices, mostly open plan, is an important factor promoting KM. Where Directors or Senior Managers are housed in separate offices, workers are able to approach the without prior appointment because of the prevailing open door policies.

The studied organisations also promote hot-desking. This is the arrangement where individual workers do not have permanent desks for carrying out their day-to-day tasks. The implication is that an employee develops close working relationships with his or her colleagues, as he or she is likely to sit and work with each of them. Hot-desking promotes employee cohesion and hence collaboration.

As aforementioned, KM teams usually have little influence as far as the physical work environment is concerned. Where practicable and affordable, top management should be made aware of the challenge and pressed to improve the condition.

In cases where the office accommodation is not conducive, the KM team should intensify KM activities and events that bring employees together. A participant championed the development of a skill profile on their organisation’s revamped intranet to assuage the limitation posed by the partitioning and spread of the offices. In some cases, the KM teams are able to arrange external knowledge events in cafes (and other public places) where attendees buy themselves drinks during the sessions. Informally meetings among employees in cafes and restaurants close to their officers should be encouraged, especially where they are not possible within the offices premises.

Application to the Ghanaian KM Context

Prevalence: The physical work environment of many public sector organisations will pose a change to KM. Most offices are not open as the open plan layout and use of transparent cubicles (or cubicles with low dividers) are relatively new phenomena in the sector. Added to this challenge is the reserved attitude of some Senior Managers, which makes them less approachable. Gaining Senior Sponsorship for the KM programme can reduce the impact of these conditions. With this leverage, open door policies, time allocation for employee learning and provision of basic facilities that encourage formal and informal meetings (both within an outside the office premises) can be secured to promote KM.

Some public sector organisations experience shortage of office accommodation. The situation becomes critical in times of renovation and re-fitting of fixtures. This development is likely to put a strain of spare spaces and meeting rooms that can serve as avenues for informal and formal employee meetings to enhance collaboration.

Furthermore, office buildings hardly have communal areas unlike those observe in UK. Dispensing machines and in-house restaurants and cafes are not characteristics of the office environment of public organisations in Ghana.

Promotion: Facilities such as discussion tables, presentation rooms and Internet nodes at vantage points can be provide throughout the organisation to encourage staff collaboration.

The largely honorific Ghanaian culture may stand in the way of demands for open door offices along with open door policies where employees (seniors and juniors, alike) can walk into each other's office without prior appointment, and hot-desking where employees may not have permanent seats. Through evangelising the importance of informal communication and soliciting the support of top management, this cultural barrier can be removed.

Research Participant View

Hard copies of our internal resources are kept in our library.

We have records office.

The challenge of promoting knowledge culture through improved work environment will be a herculean task for the KM team. Nonetheless, every opportunity should be ceased to canvass for KM-friendly work environment.

4.3 KNOWLEDGE MANAGEMENT FRAMEWORK FOR PSOs IN GHANA

The goal of this research is to develop a KM practice framework for public sector organisations in Ghana and potentially, for public sector organisations of economies that share similar characteristics with Ghana. A multi-case study conducted in the UK and Ghana has generated factors and conditions that influence knowledge management in the public sector. The potential impact of these factors and conditions in relation to KM initiatives within the public sector setting in Ghana was explored and discussed under the labels: Acquisition, Absorption, Prevalence and Promotion (Section 4.2). This was intended to conceptualise the relevance and applicability of those factors and conditions in the Ghanaian context.

The proposed KM framework represents both an opportunity and a challenge. A challenge, because KM advocates and enthusiasts would have to battle age-old cultural, behavioural and organisational norms to make KM acceptable to all relevant players; and an opportunity because, potentially, latent skills will be activated, suppressed intellectual prowess will be stimulated and laidback organisational attitudes will be replaced by responsive and determined outlook, in the long run.

The combined views of policymakers, public sector administrators, public servants and IT experts provide a concrete foundation for the proposed framework. Informed and directed by insights gleaned from public sector organisations in the UK, a public sector-oriented KM framework is developed. The proposed framework (Figure 4.3) sets out the overall context for KM in the Ghanaian public sector, highlighting and projecting the core drivers of KM in the public sector and emphasizing the organisational and employee factors and conditions that promote or inhibit knowledge practices. In essence, the proposed framework defines a structure of interrelated concepts, values and practices that underpin KM in the public sector.

Aligned with the practice-based perspective on knowledge, a framework implementation guide is also proposed with a focus on Ghana. The framework implementation guide (Figure 4.4) sets out the broad phases for piloting KM in the Ghanaian public sector as a project and provides some 'ground rules' for ensuring sustainability. The framework and its implementation guide draws on selected authoritative literature in the subject area (Kandadi, 2006; CEN, 2004; Hislop 2009; BSI 2005).

Beyond the pilot phase, KM initiatives in the public sector organisations in Ghana would be implemented and its progress measured and evaluated with the help of a simplified KM Maturity Model (Figure 4.5). Just like the pilot project, KM initiatives will be implemented on functional unit or departmental basis to give the implementing unit or department flexibility and room to explore KM. Thus, the strict implementation phases provided apply only to the pilot project which would fundamentally be viewed as an important blue print for KM in the sector.

4.3.1 The Proposed KM Practice Framework (2EMS): Building Blocks

A cursory look at the sketch of the proposed framework evokes words such as precision, delicate, meticulous, care, fine balance, tact, etc. The framework amply portrays the delicate and fine balance that should exist between KM need

(i.e. business value for KM), depicted by the trigon (triangular-shaped solid) base and the KM programme or initiative itself, represented by the spheroid, as far as public sector KM is concerned. Unlike scenarios in some private firms, KM in the public sector is not stumbled upon or started by chance. The existence of strict regulations, policies, accountability, politics and bureaucracy make the presentation of a cogent business case for KM the only solid grounds for receiving top management support for its implementation. Metaphorically, the spheroid loses balance and tips off when the ingredients within its supporting trigon are weak in term of relevance to organisational goals.

Based on the synthesis of the findings from both UK and Ghana, four building blocks are proposed to underpin KM in the public sector – one feeding into the trigon and three into the spheroid. As exhaustively discussed in Section 4.2, the four building blocks are **Expectation**, **Environment**, **Means** and **Support**, generating the acronym "2EMS" for the framework. The paragraphs following briefly recapitulate these building blocks and more importantly project how the three operational blocks, Environment, Means and Support, are interrelated.

4.3.1.1 Expectation (E)

The Expectation block anchors the motivation and rationale for KM in public sector organisations. In essence, it provides and defines the business value of KM to the sector and justifies the resources that would be expended in piloting and institutionalising KM as a stable or permanent competence within the sector. The framework is, thus, pivoted on the expectation from the government, stakeholders (including development partners) and the citizenry (PSOs' customers) which typically may involve dealing with scattered knowledge, that is, lack of uniformity in the application and interpretation of policy and legislation; reorienting the sector through reforms and ensuring judicious use of limited resources through evidence-base policy-making.

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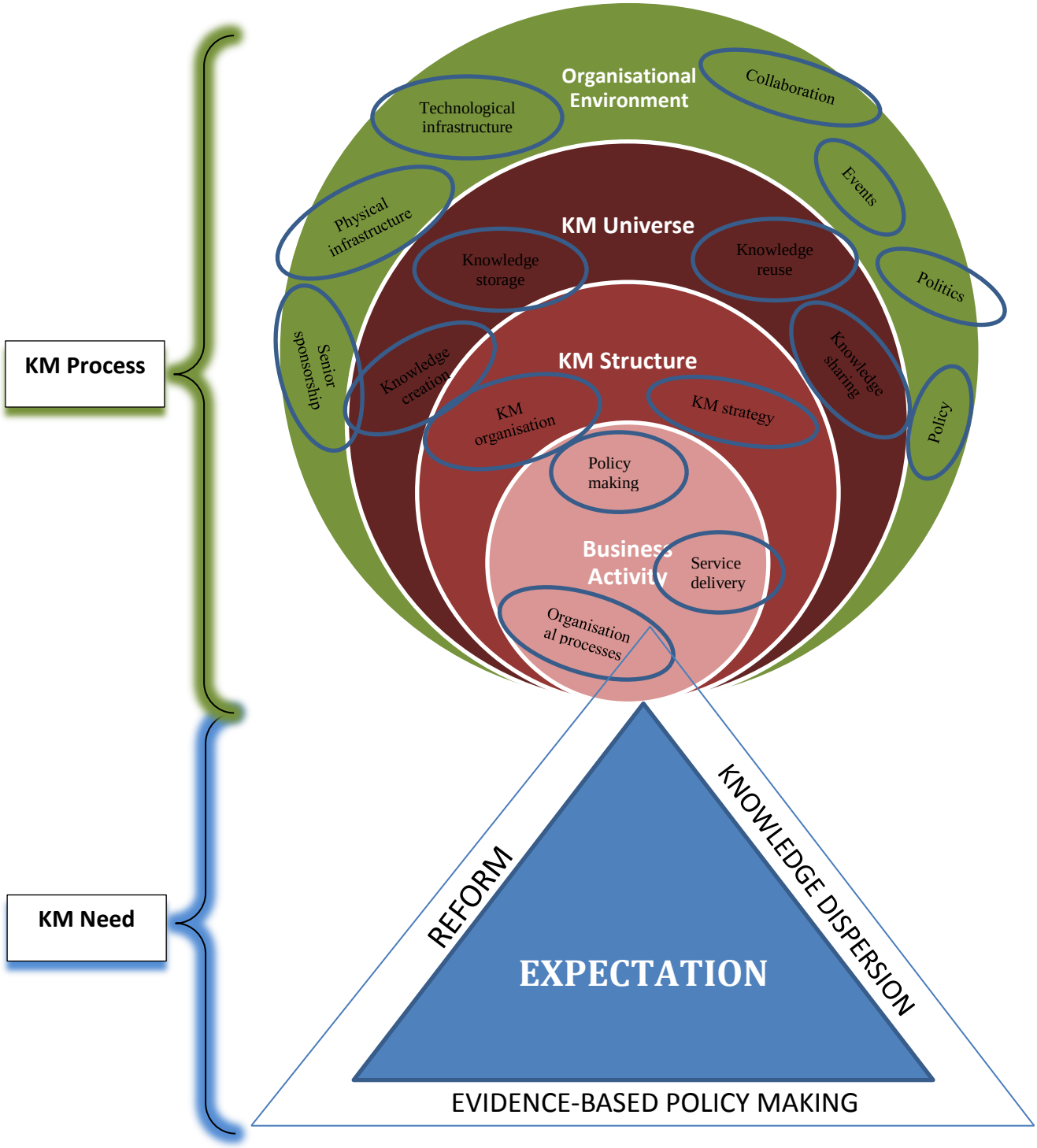

Figure 4.3: The 2EMS KM Framework for PSOs in Ghana (Source: Author)

4.3.1.2 Means (M)

The business activity of the public sector – policy-making, service delivery and organisational processes, the strategy and organisational structure adopted for deploying KM initiative (KM structure) and the practices and techniques for exploring and exploiting knowledge (KM universe) come under the Means block; connoting the 'doing' aspect of the framework. Central to the KM process is the business activity which represents value-adding processes to be optimised by the KM initiative defined by its universe and structure. Thus, KM seeks to leverage these business segments to deliver value for money and to meet wider Government expectations and aspirations. In general, through KM specific knowledge practices that stimulate the intellectual prowess and creativity of public sector workers is embedded in routines to achieve efficiency and competitiveness

4.3.1.3 Organisational Environment (ES)

The Environment and Support blocks have been combined and designated as organisational environment to encapsulate the total organisational and employee factor and conditions that have huge influence on KM as a strategic intervention in public sector organisations. These factors and conditions include internal policies, employee values, technological and physical infrastructure, managerial support, events and politics.

4.3.2 The Proposed Framework and PSOs in Ghana

4.3.2.1 Organisational Factors and Conditions

All public administrators, public servants, policy makers and IT experts who participated in the research agreed that most of the activities carried out by public sector organisations in Ghana are knowledge based. As such they recognised the role effective knowledge culture can play in the sector.

Generally, participants admitted that there was much room for improvement as far as harnessing the sector's knowledge resources were concerned. There were mixed feelings to the question whether public administrators in Ghana recognised the value of knowledge in today's business environment. Participants unanimously agreed that KM would be relevant to the Ghanaian public sector in the areas of promoting innovation, linkage with external knowledge sources and building effective knowledge culture.

Responses from UK and Ghanaian participants converged when both sets indicated that the sector's KM need does not stem from employee turnover and the requirement for virtual work environment. Rather, KM is needed to improve service delivery and innovation, support policy-making and implementation and stem knowledge dispersion which results in lack of uniformity in the application and interpretation of policy, directives and guidelines. Though the sector needs KM to better manage its knowledge, a number of organisational factor and condition were pointed out by participants, which must be given thorough consideration in any attempt to establish KM as a stable or permanent competence in the Ghanaian public sector.

Participants warned that securing Senior Sponsorship would be a herculean task for the KM team given the pressure on resource – human and structural – in the sector. The team would have to justify and demonstrate short-term tangible benefits before the needed sponsorship can be secured. Furthermore, the findings showed that most public sector organisations have well laid out organisational structures and strategies (mission, vision and policies) and may not require special permission from any quarters to try out KM.

All organisations studied have HR practices in place, which involve recruitment, time allocation, appraisal, events, and organisational learning. While most of these activities may lack any conscious attempt use them to promote knowledge culture, the KM team can suggest improvements to make them effective knowledge exploring and exploiting tools. Appraisals in most public sector organisations are carried out for their own sake. The KM team can suggest reward and recognition schemes that will improve the organisation's

perception of knowledge and knowledge culture to encourage employee commitment to the KM programme.

The issues of politics, bureaucracy and hierarchy are rife in the Ghanaian public sector. It is uncommon to sight middle and some top management staff conducting themselves in ways that suggest total disregard to any existing rules and regulations. Some participants agreed that the KM team could be seen as 'having undue advantage' and being stereotyped. Other participants suggested that a consultative attitude of the KM team would forestall any form of antagonism from staff and members of top management.

Regarding the way KM should be organised, majority of responded suggested a hybrid organisational structure where KM role and functions are embedded into organisational routines and processes. Insights from the UK study showed that embedding KM activities should be the ultimate aim; but a small-sized KM team should start and champion the KM agenda at the beginning.

Participants supported the following as some of the dangers public sector organisations risk if they do not adopt KM as a management strategy:

- Duplication of efforts
- Lack of awareness of the whole picture surrounding a particular policy change
- Lack of evidence-based policy making
- Lack of join-up working by public sector teams in different organisations
- Lack of scenario planning and absence of early warning signs
- Impaired access to requisite knowledge and know how

The deployment and use of ICT within Ghana's public sector is moderate. The research data revealed that the Government has established a National Information Technology Agency (NITA) to oversee the deployment of ICT infrastructure throughout the country.

- Support for MDAs
- The challenges

- The future

Additionally, Community Information Centres are being set up in all the regions of the country to encourage basic in the use of computers. This will have a long-term effect of the public sector, which employs more than half of the nation's workforce.

Data gathered revealed that Ghana is making strides in its ICT development. Beyond the rhetoric of developing a policy document on ICT for Accelerated Development, with the help of its development partners, especially the World Bank, Ghana is deploying ICT infrastructure nationwide and plans are far advanced to create a national Data Centre and to provide Virtual Private Service to Government Ministries and Departments. The Government's eGovernment efforts will be given a big boost with the provision of a shared platform service by the country's National IT Agency.

4.3.2.2 Employee/Personal Factors and Conditions

There ought to be within an organization a culture of motivation, a sense of belonging, empowerment, trust and respect before people really start to engage themselves in developing, sharing and using knowledge, since most knowledge processes are on a more or less voluntary basis and knowledge is to a large degree personal. The study did not measure these attributes but responses from participants depicted a not-so-serene culture. Most participants were of the view that introducing KM and the possible change management process will be met with some resistance from public servants who may be satisfactory with the status quo.

The KM team must capitalise upon personal factors such as employee skills and experience, knowledge sharing aptitude and attitude, future ambitions and natural dispositions to shore up the KM programme. These are needed to ensure a sustained and vibrant KM programme. The findings indicate that public servants in Ghana have a positive attitude towards learning. Through self-

funding and sponsorship avenues, most public servants are acquiring higher qualifications making them more knowledgeable and skilful at their jobs. Thus, KM activities that promote employee learning will receive huge acceptance from the sector.

Employees are likely to be enthused about KM and to commit to its tenets if they are made to know and appreciate what is in it for them.

4.3.3 The Proposed Framework: Implementation Guide

The framework implementation guide sets out the phases for starting out or piloting KM in Ghana and also presents 'ground rules' for achieving sustainability. The ground rules are not meant to be exhaustive but to serve as a general guide to exploiting existing conditions and practices to sustain the interest of employees and management.

4.3.3.1 Proposed KM Practice Framework: Implementation Phases

Knowledge management is typically changing the attitudes and behaviours of staff and management, and the organisational culture, towards effective knowledge culture. This is difficult and the KM team should employ all the strategies discussed in this research to ensure smooth and consensual change management. Both psychological and behavioural approaches should be adopted and continuous KM evangelisations (broadcasting the gains and prospects of KM) at every level of the organisational hierarchy should precede implementation. The implementation structure comprises five phases in line with the project management context suggested by the European Committee for Standardization (CEN, 2004).

The phases are not entirely mutually exclusive. Each phase involves processes, tools and methods to be considered, and milestones to be achieved are suggested. This study highlights the requirements of each phase. Exhaustive

discussions of these phases are available in the KM literature published by the European Committee for Standardization (CEN, 2004)

As aforementioned, for this research, implementation is reckoned as the process of introducing KM into public sector organisations in Ghanaian. Beyond this initial implementation project, which would effectively announce the arrival of KM as an intended organisational intervention, devolving KM into the business divisions or functional units will be guided by the KM maturity model. Thus, the implementation discussed here is for the one-off pilot project to usher in KM. A functional unit or department may be used for this project.

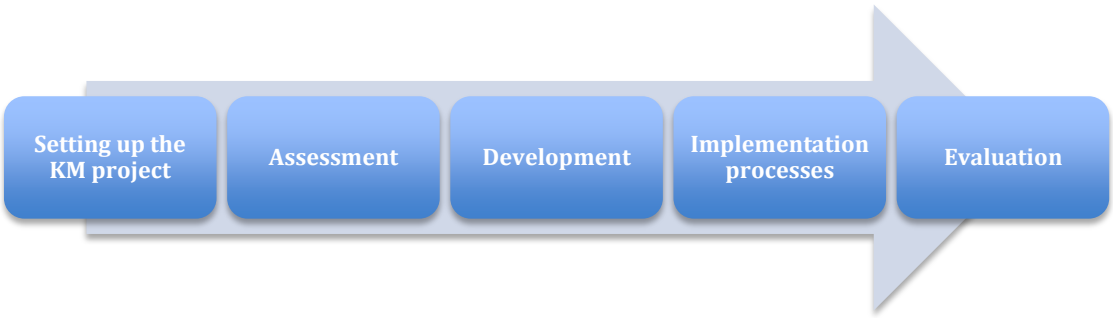

Figure 4.4: KM implementation phases (Source: CEN, 2004)

4.4.2.1.1 Setting up the KM Project

The first phase of the (pilot) implementation project is critical as the business need for KM are identifies and communicated through a KM mission, vision and strategy. The objectives are also set at this stage. Before these critical steps are taken, Senior Sponsorship should be secured in words and deeds. As have been reverberated throughout the study, without buy-in from top management, the organisation is not ready for KM. The KM (organisational) structure or KM team should be determined at this stage in terms of its number and leverage (reduction in functional role to be able to manage the KM project).

4.4.2.1.2 Assessment

At the stage the current state of knowledge assets and flow within the organisation should be assessed. The following questions can serve as guide to assessing the state of knowledge flow:

- How efficient are existing practices for encouraging employee knowledge culture with regard to organisational aims?
- Has the organisation a well-defined strategy to promote knowledge exploration and exploitation?
- What is still missing in terms of knowledge culture in the organisation?
- Specific questions that attempt to position the organisation in terms of how effectively it is meeting its mandate or public sector reform requirements could also be asked to determine the 'deviations'.

4.4.2.1.3 Development

Requirements should be defined at this stage, that is, the KM solution should be developed at this stage. The main building blocks of the KM solution are identified, planned, designed and prepared for the subsequent implementation process. Practices, techniques, tactics and tools for exploring and exploiting knowledge are set out at this stage. Any associated costs are also identified. The KM teams should consider existing practices and tools that can be deployed as the starting point.

4.4.2.1.4 Implementation Processes

Implementation processes cover the processes of implementing the KM solution into the selected Business Division or Function Unit. Workers in the division or unit are introduced to KM and appropriate training on the method and tools provided. At this stage three factors are essential to ensure that the KM project endures and transcends the pilot scheme: people, time and finance.

The KM team should select a division or unit where the employees are enthusiastic about KM and are ready to evangelise the benefits from the KM project. Beyond interest, the team should involve people who have experience and ideas, and where possible with standing within the organisation. This will enhance knowledge sharing and give the project the required status.

Allocating time for KM activities is important at this stage. If workers in the KM project division have too great a workload, this will detract from their overall effectiveness and interest will wane. The right amount of time and tools can be secured if the project has top management support.

The KM team should ensure that cost is kept to the barest minimum. One challenge with public organisation in Ghana is funding and so high expenditures (in terms of person hours and procurement of tools) may result in the termination of the project.

4.4.2.1.5 Evaluation

An evaluation of the project should be carried out and results measured. 'Quick wins' should be broadcasted and successes celebrated continuously. Both KM activities and results should be measure as best as possible to help determines necessary adjustments for more effective KM programme in other divisions and unit. In a way, this will ensure improvement in subsequent projects.

As aforementioned, the aim of the pilot KM project would be to launch KM as an organisational intervention. For this reason, all necessary actions and precautions should be taken to ensure that business value is delivered from the pilot project. Top management would definitely continue its sponsorship if positive returns are demonstrated from whatever costs the organisation to be selected for the pilot project incurs. The section following presents some titbits on how to sustain interest in the KM initiative across the piloting organisation.

4.3.3.2 Sustaining Interest in the Pilot Project

On the basis of its potential impact on performance in the Ghanaian public sector, KM implementation should have the basic objective of sustenance – KM ultimately becoming embedded into the social fabric of the organisations. In light of the 'unpredictable terrain' of the Ghanaian public sector as far as the acceptance, consideration and possible implementation of KM as a stable or permanent competence is concerned, this research recommends that the implementation of a KM programme should carefully consider the following 'ground rules':

i. The ultimate requirement: Senior Sponsorship should be secured in deeds not in words.

ii. Use Senior Sponsorship to the best of your advantage to sustain the initiative (e.g. Senior management members leading by example, HR instituting a scheme for staff recognition

iii. Employees and work groups/teams should be assigned 'customer' status; be treated like customers (customers are always right)

iv. The KM team should not be prescriptive (rigid, dictatorial, dogmatic, narrow, authoritative), give room for mistakes and experimentation. Demystify KM. This will make KM seem as normal as standard organisational process and subside any fears and apprehensions.

v. Communicate business benefits/value clearly to staff and management, emphasizing the long-term nature of KM benefits

vi. Know the non-negotiable parameters of the KM strategy (critical success factors)

vii. Build upon and improve existing organisational activities and processes, especially, those championed by HR department. KM must not lead to BPR. This makes KM practical.

viii. Emphasize socio-cultural factors that promote KM and which may already exist in the organisation. Do not promote ICT-let KM. The role of ICT should be to create expert maps (to help locate employees with relevant skills and to enrich

communication and collaboration between employees who are physically dispersed). With this perceived role of ICT, every public sector organisation can start KM as far as technology is concern. This makes KM scalable as far as technology is concerned. Organisations with low ICTs accumulation and use can start and benefit from KM.

ix. Celebrate success early and continuously

x. Re-echo the benefits of KM to staff at every opportunity

xi. Review cases of KM benefits from other organisations with staff and management

xii. Obtain feedback; let staff and top management state what they think about the initiative

xiii. Embed KM practices in routines as its practices mature

xiv. Constantly remind staff and top management of the long-term benefits of KM

xv. Integrate ICTs cautiously. A critical mass of knowledge holders can be side lined and their interest in KM dashed if technology is introduced without thorough consultation with users, especially, the older employees.

4.3.3.3 KM Maturity Model

Organisations are able track their progression on the KM ladder with a KM maturity model. In its full stature, the model can measure KM maturity within functional areas, work groups or teams in the organisation as well as organisation-wide progress. It is expected that as KM matures in practice, it will deliver value, which can be interpreted as KM results. KM maturity has both quantitative and qualitative measures. The quantitative measures give an indication of the effectiveness of KM processes and culture including effective use of KM tools. The qualitative measures, on the other hand, are intended to gauge how the KM programme is perceived or measure its reputation, both from workers' and customers' perspective. Qualitative measures are mainly through feedback.

While both forms of measure are important in measuring KM activities, only the quantitative measures are employed in defining the stages of KM maturity. Figure 4.5 outlines the stages of the KM maturity model for a typical functional group or unit, which is predominantly based on the empirical findings of the research.

Stage 1: ***Know***

This is the first stage where KM is introduced. In effect, the unit is made aware of KM what is in it for them, first and foremost, and what impact it can make on organisational performance. Employees are made aware of ways knowledge can be lost and what KM is and what it is not, in practice.

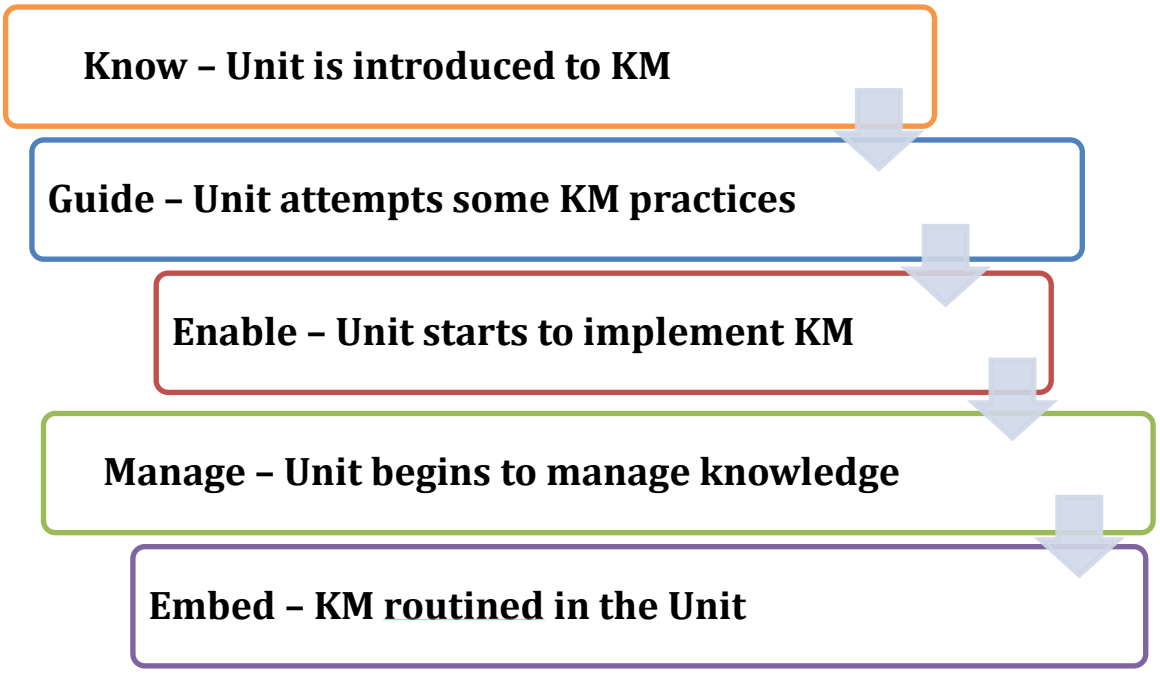

Figure 4.5: KM Maturity stages (Source: Adapted from HMT)

Activities employees are introduced to at this stage include the need to inform colleagues, clients and stakeholders of their absence from the office, the need

to avoid duplication and inconsistencies in their work, the need to embed evidence in policy, etc. Knowledge champions or KM representatives for the unit are appointed at this stage. Time may be allocated to unit staff who engage in KM activities.

Stage 2: ***Guide***

At this stage, the unit actually tries out KM. For instance, they ensure leavers hand in hand over note of a fair quality. Knowledge champions draw up action plans for the team and begin to champion knowledge culture in the unit. Networks are created (if none exits) to improve collaboration and sharing. Unit promote their work through organisational newsletters and attend relevant seminars and workshops. Unit begin to set standard KM objectives and discuss lessons learned. At this stage the unit could have enough time allocated for KM.

Stage 3: ***Enable***

The 'Enable' stage, as the name suggests, is where the unit start to manage its knowledge. Colleague who leave the unit are enjoined to produce quality handover note. The unit uses office directory, which is correct and current. Unit's content in the intranet is updated and action plans are implemented. Colleagues share their skills and learning and knowledge skills are increasingly valued. The unit is able to use external expertise and knowledge sources and lessons learned are documented.

Stage 4: ***Manage***

At this stage, the unit actively manages its knowledge and documented best practices are employed in carrying out tasks.

Stage 5: ***Embed/Absorb***:

When best practices are 'routinised' and KM has become embedded or absorbed into the unit's activities, the final stage of the KM maturity model has been reached. All conceivable knowledge practices are process knowledge come together seamlessly.

The stages and activities described are indicative and intended to give KM leader some intuitive understanding as to how KM can progress. Depending of the nature of business activities within a unit, more relevant, meaningful and useful activities may be defined for each stage.

Pictorially, KM maturity is akin to moving up a staircase (Figure 4. 6). As KM practices gradually becomes part of the daily activities of the unit, the unit can be thought of as moving up the maturity staircase. The final step is reached when KM practices and techniques become embedded or absorbed into the core activities or business processes of the unit. Along the staircase from becoming aware of KM to assimilating its practices, some KM results or value may be recorded. It is repeated throughout the study that the value of KM is mostly intangible and long-term in nature, but some direct or concrete benefits are possible. Measuring the value from KM is discussed briefly.

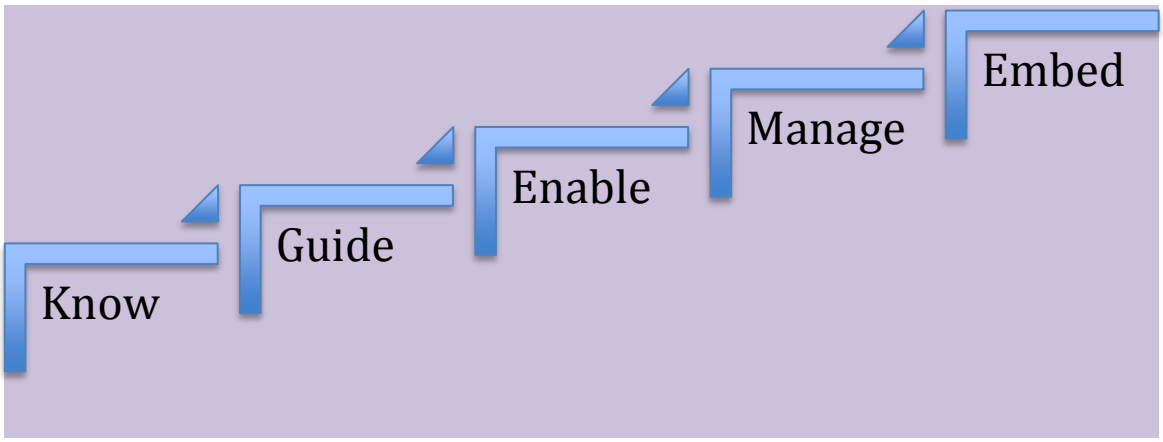

Figure 4.6: KM Maturity – A stepwise depiction

4.3.3.4 Measuring KM Results

KM can make positive impact on organisational performance if it is well articulated, implemented and nurtured. The organisation can have a fair idea about its strength at creating and using its intellectual assets by measuring KM results. Knowledge management can add value in five ways, some concrete and others less tangible. The first direct value from KM can be reckoned as financial. This is where the KM practices results in cost savings (through shortening lead times and other time savings) and revenue increases (through improved revenue collection methods or faster and better service delivery).

Secondly, KM practices stimulate the innovation prowess of employees as knowledge is effectively developed and applied. Knowledge sharing through communities of practice and other collaborative efforts and employee learning are a great source of creating new knowledge. One of the intangible benefits from KM is business process optimisation. Enabling seamless flow of knowledge across processes, employees are able to carry out their routines more efficiently enhancing job satisfaction and their 'psychological income'. The fourth and fifth benefits from KM are improved customer satisfaction and employee development. KM helps the organisation to better understand its customer needs through sharing knowledge with them. KM helps employees to develop and use their skills. Employee loyalty and satisfaction are enhanced if the work environment provides an opportunity for workers to learn and advance their knowledge. As employees become more skilful and adept at their work, the human capital of the organisation improves.

One way of showing or demonstrating these business values from KM is through conducting employee and customer satisfaction surveys, using narrative techniques including storytelling (communicating achievement), . There are however more sophisticated methods for measuring the intangible values from KM. They include the Intangible Assets Monitor, Skandia Navigator and Patton Approach (CEN, 2004).

4.4 CHAPTER SUMMARY

Underpinned by a rigorous application of the data analysis techniques of grounded theory to the field data to generate relevant factors and conditions that promote KM in public sector organisations, the empirical findings of this research study were presented in this chapter. These KM factors and conditions were aligned to four core categories or organisational dimensions to provide context for KM the in the public sector with particular regard to the Ghanaian public sector. A KM practice framework was developed for the sector based on the identified factors and conditions. Finally, a simple KM maturity model to assist public sector organisations in Ghana assess their KM progression within a typical functional unit was formulated and its stages explained.

5 CONCLUSIONS

A dream doesn't become reality through magic; it takes sweat, determination and hard work

Colin Powell

5.1 INTRODUCTION

This is the final chapter of the thesis and it reviews the research findings and the developed framework with the view to drawing concrete conclusions based on literature and practice knowledge in the field of KM. Beginning with a recapitulation of the research aim and how the research objectives were accomplished, these conclusions are predominantly conveyed in light of the contributions of the study to knowledge in the subject domain of KM. At the same time the validity and reliability of the research findings are discussed. Reckoning the adoption of knowledge management in the Ghanaian public sector as a Government project, the concluding remarks also seeks to demonstrate how KM will advance existing projects in the sector. Furthermore, the chapter elaborates the factors that militated against the research process and hence the findings, and upon which recommendations for future studies are made. The chapter closes with a reflective piece, intended to serve as a self-assessment of the researcher's role in the study.

5.2 PURPOSE OF THE RESEARCH AND QUALITY ASSURANCE

Several studies (Skyrme, 2003; Wiig, 2002; Berce, 2004; Bate and Robert, 2002) have been carried out to determine whether the public sector is amenable

to knowledge management practices and to which practices can best serve the sector given in view of its goals and institutional restriction. One reason for the interest in public sector KM is an attempt to discount the notion that it is a private sector domain and that organisations in the public sector have no share in its offerings. At a number of regional and global forums and brainstorming sessions (Neilson, 2000) as well as during high level studies including the research sponsored by the British Standards Institution (BSI, 2005), participants from the public sector have always disagreed that the public sector does not need KM. Given the fundamental differences between the public and private sectors (Parker and Bradley 2000), public sector organisations need KM that is specially designed to take care of their peculiar nature in terms of legislation, regulation, politics, culture and overall aims.

The KM literature reports the strides made by public sector organisations in the advanced economies including the United States and the United Kingdom. In the UK, through reforms and direct Government-led capability reviews, public sector organisations have been challenged to manage their intellectual assets more 'profitably'. As if that is not enough, the UK Government has develop a Civil Service Competency Framework to not only determine requisite competencies to be developed with the public sector but how those competencies can be developed and measured.

In the developing economies, on the other hand, attempts at managing intellectual assets in the public sector are minimal. The dearth of literature on KM in the developing world, especially, Africa attests to this sad development. In Africa, South Africa is perhaps the leading economy with a number of initiatives within the public sector to harness intellectual assets.

This research emerged as an attempt to help address this problem. The research problem was defined to resonate with this need of the Ghana public sector: "How to manage knowledge in the Ghanaian public sector". In essence, the research was intended to chart a way for the Ghanaian public sector to come out of this 'doldrums' and to assert its ability to manage the vast knowledge resources it generates daily. The overall aim of the research was to

develop a KM practice framework that was robust in terms of its underpinnings and practical in terms of its relevance and applicability in a Ghanaian setting. For this course, the objectives of the research were delineated to encompass the follow:

1. To critically review literature on the various concepts, contexts and frameworks of knowledge management;
2. To conduct an in-depth empirical study into latent knowledge management drivers and enablers within Ghana's public sector organisations;
3. To conduct an in-depth empirical study at selected public sector organisations with established knowledge management programmes in the United Kingdom with the view to understanding their Knowledge Management strategy, processes, best practices and challenges;
4. To evaluate and synthesize the findings of the empirical study in the light of contemporary KM literature to determine the factors and conditions that would promote a sustainable knowledge culture in public sector organisations in Ghana;
5. To develop a KM practice framework for the Ghanaian public sector.

These objectives were accomplished and a brief overview each is presented in the succeeding paragraphs. The KM practice framework "2EMS" is a direct response to the research problem and an explicit execution of the research goal, based on the findings of the empirical studies conducted in UK and Ghana.

Objective 1: **To critically review literature on the various concepts, contexts and frameworks of knowledge management**.

This objective was intended to discover the knowledge management subject area and to firmly locate the research in theory. Chapter two provided a comprehensive literature review. Worthy of note is the in-depth discussion of the knowledge economy phenomenon, which has precipitated knowledge management as a direct response to the need to better manage intellectual assets. Apart from the various concepts, theories and framework that were

reviewed, the research problem was corroborated through literature as the dearth of research in public sector KM in developing economy context was amply demonstrated. The insights gleaned from the extensive literature review impacted positively on the whole research process.

Objective 2: **To conduct an in-depth empirical study into latent knowledge management drivers and enablers within Ghana's public sector organisations**

The Ghanaian public sector was one of the case sites for this research. The thrust of this objective was to unearth practices, conditions and characteristics within the sector them are amenable to KM strategies. Adopting an interpretivist stance and a case study strategy, empirical data were collected from seventeen organisations in Ghana through interviews. The latent KM drivers and enablers were discussed along with factors and conditions that influence KM identified from the counter study in the UK. Most of them were however explicitly discussed with the proposed KM framework.

Objective 3: **To conduct an in-depth empirical study at selected public sector organisations with established knowledge management programmes in the United Kingdom with the view to understanding their Knowledge Management strategy, processes, best practices and challenges**

As explained under *Objective 2*, the same research design was used to collate organisational factors and conditions that influence KM in the public sector. Seven reputed public sector organisations were studied. The empirical data was analysed using data analysis method of the grounded theory. The factors and conditions were grouped under four core categories, which served as the building blocks for the proposed KM practice framework. The factors identified include those that promote or inhibit KM in the public sector.

Objective 4: **To evaluate and synthesize the findings of the empirical study in the light of contemporary KM literature to determine the factors and conditions that would promote a sustainable knowledge culture in public sector organisations in Ghana**

The different socio-cultural dynamics meant that the KM factors and conditions identified in the UK ought to be adapted to make it applicable to the Ghanaian context. This evaluation and synthesis was carried out for each factor and condition identified as directly influencing KM in the public sector. Distinction was made between those factors and conditions, which the Ghanaian public sector should promote, and those it should acquire.

Objective 5: **To develop a KM practice framework for the Ghanaian public sector**

Based on the identified factors and conditions influencing KM in the public sector, a KM framework was developed. The factors and conditions were cluttered under four meta-level organisational dimensions namely Expectation, Environment, Means and Support, each signifying relevant issues that public sector organisations should thoroughly consider before embarking on a KM programme. The framework is accordingly labelled ***2EMS framework***. The developed framework comes with an implementation guide and a maturity model to help organisation calibrate their KM progression.

The research adopted a multi-site case study strategy where each of the two case sites consists of multiple cases. The aim was not only to be able to synthesize the findings from each case site but to obtain rich empirical material from each of the cases. The seven organisations studied in UK were reputable government institutions each with several years of involvement with KM. The research benefited from the vast experiences of the Knowledge Managers interviewed for the research. In addition to rich contextual insights based on their employ in the public sector first and foremost as public servants and as KM experts, they provided valuable contrasts based on the private-sector background of a number of them. This public-private sector comparison was

instructive as it buttressed views in some KM literature that posits public-private sector KM dichotomy and argues the need for different KM designs for each of the sectors based on their distinctive contexts.

The vast publication on UK's public sector provided secondary data the corroborated the empirical data collected through the interviews. Claims made by the participants were verified through cross-case analyses. These triangulation measures helped to achieve accuracy and consistency in the findings. Furthermore, one of the studied organisations undertakes an intricate exercise – benchmarking – that some private sector organisations will find a daunting task. Incorporation of this rigorous process will be the 'holy grail' for public sector organisations in Ghana that will embrace KM as a corporate stranger.

Use of the analytical techniques of the grounded theory method enhanced the thoroughness of the findings. Grounded theory imperatives such as constant comparison, memoing and abstraction also enriched the outcome of the data analysis.

The developed KM framework has been technically informed by expert knowledge from UK but practically informed by the Ghanaian setting. It can does serve as generic framework for any public sector organisation. For the best result, however, the local climate of the public sector involved must be carefully studied and the implementation guide adapted accordingly. While most of the technicalities may even apply in the private sector context, the effectiveness of any KM initiative largely depends on the interplay of the socio-cultural dynamics of the sector concerned and the ingenuity of the KM team.

Reliability of the research has been ensured through consistency in the use of the data collection instrument – interviews. Interviewees in the same sub-sample responded to the same set of questions and all interviews followed the same set of protocols. This minimised researcher bias, which includes departing from the interviewing instructions, poor maintenance of rapport with the

respondent, altering factual questions, rephrasing of attitude questions, careless prompting, asking questions out of sequence and biased probes.

5.3 CONTRIBUTIONS TO KNOWLEDGE

Knowledge Management is still a growing field with no easy and acceptable answer to the question: *What is Knowledge Management*? Being an emergent discipline, the difficulty of defining KM may be interpreted and taken to be part of its strength and appeal. A number of theories, concepts and frameworks exist to explain its meaning, approaches and direction. A common theme that runs through the different schools of thought, however, is the recognition of the inimitable role of knowledge in today's organisation or firm. Knowledge is recognised as a core competency which organisations must create, nurture and learn from. But, the market and competition-oriented perspective of most of the KM literature tends to create the impression that public sector organisations, given the nature of their business goals, do not need KM or cannot embrace its practices and techniques. However, the public sector organisations, in both developed and developing economies, need KM and have been exploring ways to better apply its concepts, theories and frameworks; a feat not well acknowledged in the KM literature.

From the foregoing, the research sought to argue that there is a deducible public-private sector KM; a dichotomy adequately clarified in this research and conveyed in the KM literature; albeit, this distinction placed in perspective. The difference between the public and the private sectors means that public sector-linked KM would be more beneficial to the former in its quest to harness the vast knowledge resources it creates. The research corroborated the enormous challenge that confronts KM in the public sector and thus, sought to develop a KM practice framework that copiously considers the idiosyncrasies of its sphere, with a particular focus on the Ghanaian public sector.

In the light of the findings and the framework that has been developed subsequently, this research has made some significant contributions to both

theory and practice in the field of KM, specifically, public sector knowledge management in developing countries, where 'conditionalities' imposed by external partners call for intensifying the quest for interventions that increased the efficiency and reduce the cost of public administration. In several respects, the study has contributed to literature in the KM subject area.

5.3.1 Theoretical Contributions

This research work is a significant addition to the literature in the subject area of Knowledge Management. Broadly, it carries the tenets of the discipline to a new constituency and highlights necessary adjustments to accommodate KM in the Ghanaian public sector. This augments the works of writers such as Bate and Robert (2002), Abdullah and Date (2009) and Berce (2004) who have attempted to explore KM in the public sector. But more importantly, the study highlights the prospects of public sector KM from the perspective of a developing economy.

5.3.1.1 Addition to Public Sector KM Literature

This research study is a significant contribution to the KM literature, both in terms of theory and context. Knowledge Management is here to stay, according to Koenig (2012). Koenig's answer in the affirmative to the question, "Is KM here to stay?" was backed by a compelling bibliometric analysis. The number of articles in the business subject area with the phrase "Knowledge Management" or the abbreviation "KM" in the title has been growing since 2001, from a little below 8,000 in 2001 to above 12,000 in 2011 (Koenig, 2012). Much of this literature, no doubt, was private sector oriented. As has been explained, the market and competition positioning of major KM initiatives leave only a small room for public sector KM in the literature; this is true even in the case of public sector KM in the advanced countries.

The result is less publicity for strides made by the public sector organisations as far as KM is concerned, and lack of interest in public sector KM research. Apart

from South Africa, public sector KM research is very scanty within African economies, for example; and so is literature on the subject. Viewed from this perspective, the current research study, which focuses on Ghana, is a major addition to the public sector KM literature. Expected to serve as a "resource base" for KM initiatives within Ghana's public sector, findings of the study could also provide other African countries with rich contextual information as they begin to explore KM as an organisational intervention in their public administration.

5.3.1.2 Public Sector KM: Divergent Theories

Theoretically, this study makes important contributions to public sector KM as the developed framework provides context for the field in a new arena. The KM practice framework proposed clearly shows how a number of KM frameworks in the literature diverge when KM is oriented towards the public sector. For instance, the meta-level KM framework developed by Kandadi (2006) was found to be 'complex' in a number of ways from a public sector perspective. Virtual working and the role of technology, for example, had different meaning within public sector setting. While virtual working is argued to enhance connectivity (Kandadi, 2006), the research findings revealed that such a platform would be of little value in the public sector as Government Departments may not be as distributed as some private global firms.

Furthermore, the study discovered that technology should serve as an enabler in public sector KM and not the driver as portrayed in most private sector KM initiatives. Thus, the study advocates personalisation KM strategies for the public sector which embrace practice-based perspectives on knowledge. Thus, theories and concepts that emphasize connectivity among employees should be championed in public sector KM as against those that promote reliance of ICT and codification of knowledge.

Conspicuously missing in Kandadi's (2006) and Abdullah and Date (2009) frameworks is the technique for measuring KM activities and results. Although

not extensively discussed in this research, measuring KM activities and results was discovered to be a useful exercise that drives and advances KM in the public sector. Progress with KM activities can be measured with the use of a simple KM maturity model that defines hierarchical stages in the use and application of relevant technics and practices. On measuring KM results, customer and employee satisfaction surveys can be conducted for the purpose. This research advocates conscientious measurement of KM activities and results as a necessary principle in any well-intentioned public sector KM.

5.3.1.3 Public Sector KM: Sector-specific Theories

The ample demonstration of the existence of a dichotomy in respect of KM in the public and private sectors has implications for KM theory development. The differences in the nature of aspirations and environmental factors and conditions of organisations in the public sector and their private counterparts, connote the existence of differences in terms of KM needs and challenges. These characteristic differences must be considered in any attempt to develop a KM theory or framework. On this basis, it is difficult to understand how private sector-oriented concepts can be applied in the public sector. This sentiment is shared by Snowden (in Abdullah and Date, 2009) who states that "I have never understood the desire to copy the private sector in KM (and other fields for that matter). The value systems are different and so should the measurement systems…'

The research found out that challenges in the public sector are herculean due to the strict adherence to legislations, regulations and policies, and the existence of political and hierarchical organisational structure. This outlook of the public sector, therefore, calls for a KM strategy – practices, techniques and tools – that adequately takes these challenges into account.

The existence of knowledge intensive processes and hence knowledge workers in the public sector was liberally substantiated and the consequent call on the sector to consciously manage its intellectual assets was emphasized. This

finding gave weight to the goal of the research, which was to develop a practice KM framework for the Ghanaian public sector. Despite the anticipated challenges, the expected benefits make every effort to introduce KM in Ghana worth pursuing.

The research outcome is a compilation of factors and conditions that influence KM in the public sector. A synthesis of the findings from Ghana and the UK enabled these factors and conditions to be put in perspective in order to determine their impact in the Ghanaian context. Broader application of these factors and conditions can be abstracted. The developed KM framework is based on these factors and conditions and meticulously put public sector KM in context, as being suggested in this section.

The empirical material collected during the research weighed heavily in favour of personalisation strategies for KM in the public sector. The finding suggests that a practice-based approach to knowledge will be more beneficial to KM in the public sector in view of its defining characteristics. From this perspective, the research showed that ICT and its systems must be subservient to socio-cultural practices as far as KM in the public sector is concerned. Technology must be regarded as an enabler or an aid in the KM process. This finding discourages technology-led approach to KM and theory development in the public sector.

A trend evinced by the study was the differential application of KM measuring tools and deployment of ICT to support the KM programme. Within both case settings, UK and Ghana, the tendency to manage knowledge effectively is high in the very knowledge intensive departments – HM Treasury (UK) and The Central Bank of Ghana, for instance. It is hoped that further research into public sector KM would elucidate this observation and attempt to graduate public sector KM in a move to justify selective application of KM theories, concepts and framework

For new entrants into the KM arena, like public sector organisations in Ghana, the research amply highlights the most critical success factors. To get the KM

initiative off the ground, the business value of the initiative must be identified and well communicated. To drive and sustain the initiative, Senior Sponsorship (buy-in from top management and designation of a senior leader to lead the initiative), must be secured, not only in words but also in deeds. The research discovered that the most potent agent of change in the organisation is top management and not the introduction of new processes and practices. Thus, theories and frameworks designed for any public sector should adequately project the business value of KM to the sector and the important roles the aforementioned elements can play in its delivery.

In view of the general perception that the public sector has been slow in adopting knowledge management, a careful consideration of the issues raised in favour of the development of KM theory for the public sector would sufficiently respond to Smith's (2001) argument that valuable human and knowledge resources will be wasted unless management openly accepts and supports efforts to gather, sort, transform, record and share knowledge and to make better use of their prime resource – relatively unchallenged, creative people who are eager to apply their knowledge.

5.3.1.4 Contribution to Previous Studies

This research also contributes to the body of knowledge in the KM arena in terms of its relationship to previous research on the basis of how it diverges from or converges with their findings or propositions. For this thesis, only the works of Lave and Wenger (1991), Sveiby (2001) and Snowden (1999) are reviewed in light of the findings of the current research.

Lave and Wenger (1991) coined and described the term, 'Communities of Practice'. The current research confirmed the unique role of communities of practice (CoPs) as a knowledge process enabling creation, sharing and utilisation of skills and know-how. In all the organisations studied, communities in the form of work groups or teams and people with common professional practice played a major role in the KM initiative. The research, thus, confirms

the unique position of communities of practice in both private sector and public sector KM.

Events found to stimulate knowledge creation and sharing included After-action Reviews, Retrospective Reviews, Team Teaching, Knowledge Fairs/Cafes and Peer Assist. In all these activities, storytelling plays a major role as the colleague storytellers try to use narratives, anecdotes and metaphors to convey unique insights. Snowden (1999) popularised storytelling as a KM technique and variants of storytelling methods have been used in KM, both in public sector organisations and in their private counterparts. This research supports the assertion that storytelling is a powerful KM tool across sectors.

Arguing on the basis of the interdisciplinary character of the field, Sveiby (2001), posited that KM can be categorised into two 'tracks': Management of Information and Management of People. According to Sveiby, researchers in 'information track' view "knowledge as objects that can be identified and handled in information systems". On the other hand, researchers in the 'people track', "knowledge consists of ...processes, a complex set of dynamic skills, know-how, etc., that is constantly changing". As already argued and justified in this research report, KM in the public sector leans towards 'people track'.

In this regard, the current research advocates personalisation KM strategies for the public sector. Given the complex terrain of the sector, preponderance of practices and techniques that seek to improve behaviour, sustain KM initiatives. This is in sharp contrast with norms in the private sector where 'information track' with the attendant codification of knowledge spurs the KM programme. Highly knowledge intensive public organisations, however, are able to adopt 'information track' approaches as discusses under Section 5.3.1.3.

5.3.2 Practical Contributions

Motivation for this research stemmed from the coalition of a 'casual' association with the KM discipline and practice knowledge in public administration. The

researcher was introduced to the subject during a one-year master's programme as one of the core courses. This kindled his interest in the subject, especially its practical application. With over ten years in public sector employment as a senior public servant, the researcher could not fail to notice the inadequacy of practices and policies that are geared towards consciously promoting knowledge culture in the sector. The need to adequately harness the vast knowledge resources created within the Ghanaian public sector cannot be overstated. The current research is therefore, by and large, a direct response to this deficit in public administration in the researcher's motherland. The following sections present the practical contributions of this research.

5.3.2.1 Knowledge Management for Public Sector Organisations in Ghana

Practically, the study is a major step towards institutionalising KM in the Ghanaian public sector on a number of counts. First, the Government of Ghana (the researcher's employer) is a co-sponsor of the research. A relevant Government department has monitored progress of the research and officials have shown keen interest in its findings. Beyond helping to meet the aspiration of the New Public Management agenda - public organisations becoming learning institutions, a KM initiative in the Ghanaian public sector will help address a challenge identified by the World Bank, Ghana's development partner, during a Knowledge Economy Workshop in 2002. According to the World Bank, the challenge for African countries is their inability to create a favourable environment that nurtures knowledge creation and sharing (World Bank, 2003). The Knowledge Economy Workshops are organised to help developing countries' transition into knowledge-based economies.

The developed KM framework will help Ghana address this challenge, at least among a critical constituency – public servants. Public administrators will have the opportunity to explore KM – made practical and flexible with the rich contextual information synthesized from the study – as an organisational practice within their jurisdiction. It will suffice to say that, the KM framework

opens up pragmatic strategic options for public administrators in Ghana to grow intellectual capability, utilise it, and improve efficiency in policy-making and service delivery.

The World Bank-sponsored Knowledge Economy Workshop organised in 2002 was attended by Ghana, Tanzania and Senegal. Other developing countries have benefited from the workshops in their bid to find a foothold in the knowledge economy. Ghana, having become a beacon of hope in the West Sub-region and beyond, this research provides an opportunity Ghana to become a trailblazer in 'developing economy-oriented public sector KM'.

The Human Resource and Training Departments of public sector organisations in Ghana will benefit immensely from the findings of the research in terms of redefining and reorienting competencies within the sector. For instance, the employee factors that promote KM can serve as the starting point to initiating, compiling and institutionalising a Public Service Competency Framework, similar to that of the United Kingdom. Working with the Public Sector Reform Secretariat, Heads of HR and Training Departments, it should be possible to publish such a framework as part of the components of Ghana Public Sector Reform Initiatives.

5.3.2.2 Knowledge Management for Private Firms in Ghana and Other Developing Economies

The rarity of KM in the public sector organisations public sector is not much different from their private counterpart. Ghana is home to some of the global management consultancy firms such as Price Waterhouse Coopers and KPMG. Their service provision in the areas of accountancy and general business management is well known in Ghana. However, their KM consultancy service is not as popular.

The spread of KM programmes in the public sector following a successful pilot project is expected to kindle KM awareness and adoption in the private sector.

In essence, KM in Ghana will be a public sector-led initiative that will spill over to the private sector. It is anticipated that the Public Services Commission, the administrative seat of public sector organisations, will champion this engaging and pragmatic agenda.

5.3.2.3 KM in Public Administration Courses

A high-ranking higher education institution in Ghana has expressed interest in the findings of this research. The institution intends to take advantage of the cogent findings of the study to introduce KM in its public administration courses at all levels. Successful development of the relevant curricula will mark the starting point of this important academic intervention. This opens up an opportunity for the University of Bolton, a co-sponsor of the research, to collaborate with the academic community in Ghana to champion the delivery of the subject.

Other institutions would be encouraged to adopt the discipline and by so doing prepare future public servants as well as private sector workers with relevant knowledge culture. A steady introduction and assimilation of knowledge creation and sharing aptitude in schools will have the long-term advantage of pushing the economy towards becoming a knowledge society.

5.3.2.4 Ghana's Development Partners

Ghana's development partners, especially the World Bank, have acknowledged the potential positive impact of harnessing knowledge resources generated by public servants in Ghana. The Knowledge Economy Policy Workshop organised for Ghana some years ago was intended to deliberate on the way forward for Ghana to transition into a knowledge society.

According to the World Bank, the challenge for African countries, including Ghana, is their inability to create a favourable environment that nurtures knowledge creation and sharing (World Bank, 2003). The findings of this research provide Ghana's development partners with food for thought. It is

highly anticipated that Ghana's development partners will support the introduction of KM in the public sector. This will place a huge responsibility on public administrators to ensure its success. While financial demands would be minimal because of the personalisation strategies adopted, marginal external support from development partners will give the initiative a big boost.

5.4 LIMITATIONS OF THE RESEARCH

In a case study methodology, it is possible to use one sample as a case. However, as with all methods, the bigger the sample the better placed the results for generalisation. Though as many as twenty-one organisations were sampled, a bigger sample would have yielded further insights. This exposes two limitations – saturation of the categories and generalizability of the framework. Further data collection would have helped to fully saturate the core categories and the derived factors during the grounded theory analysis of the research. It is therefore recommended that in applying the developed KM framework, especially outside a developing economy context, further study and possible modifications may be required. Even within a developing economy context, it is suggested that peculiar organisational characteristics should be identified and 'managed' when the framework is being applied.

In one case in the UK and several cases in Ghana, there was no opportunity to follow up on some salient issues realised during transcription of the interview recordings. While other participants reasonably addressed some of the said issue, an opportunity to seek clarification of the relevant respondent may have been insightful.

Field notes were taken from the onset of the research, but memoing begun properly during the data analysis phase of the research. A lot more abstraction would have been achieved and the explanatory power of the categories and factors heightened had memoing started intensively right from the beginning.

The professional background of the researcher may have introduced some biases. The researcher adopted an attitude of conscious ignorance (Chan, Fung and Chien, 2013) as a 'bracketing' strategy to minimise his influence on the research process. But being a public servant, the researcher's perceptions may have subtly influenced the research in one-way or the other, either ignoring some vital issues or accentuating those that may not be as significant. The research methods literature warns of bias in case study research especially when it is longitudinal, where the researcher may build up a relationship with the respondents. Misinterpretation or misreading of data due to this association may have been avoided since only three respondents were the researcher's colleagues. The researcher's role in the study has been reflected upon in section 5.7.

5.5 RECOMMENDATION FOR FUTURE RESEARCH AND WORK

The developed KM framework and insights afforded by this research can be tested within Ghana's public sector. While this initial experimentation would be carried out at the earliest opportunity, future research should focus on exploring and further understanding the dynamics of the identified factors and conditions influencing KM in the public sector and nurturing best practices. A thorough understanding of the impact of the factors and conditions can inform policy change to accentuate the enablers and dwarf the inhibitors.

To facilitate maturity of KM in the public sector, there will be the need to collate KM best practices. Serving as a guide for new entrants in the sector, these best practices would be shared among public sector organisations and they can lead to the formation of various communities of practice that will work to update these practices and so not become 'obsolete' over time.

An opportunity also exists to investigate the possible extension of the applicability of the framework to the private sector. The academic community may take on this task through student and faculty research. Faced with different legislation, regulatory and cultural policies, transforming the framework to be

private-sector facing will require extensive research. Furthermore, academic institutions may consider developing an academic programme around KM to feed the public sector with graduates that have good knowledge skills.

Public sector organisations, through communities of practice or other medium, can liaise with their counterparts in the UK to share knowledge and best practices. Though most of the issues raised and guidelines provided have their sources from the UK, a research partnership or a learning community with the UK can serve two purposes. First, high level exercise like benchmarking can be learned and applied. Furthermore, current development in KM practice and theory would easily be within reach.

It is expected that as KM matures in the Ghanaian public sector, organisations would be able to articulate their KM need, and determine the possible solution as they avail themselves of public sector-wide action to extend the frontiers of KM in the sector.

5.6 EPISTEMOLOGICAL AND PERSONAL REFLEXIVITY

Describing the relationship between the researcher and the object of research, reflexivity has been discussed by scientists since the 1980s (Brannick and Coghlan, 2007). Reflexivity connotes a concession that the researcher is not 'bracketed out' but is an active participant in the whole research process, especially in studies involving qualitative data, usually through interviewing (Ryan and Golden, 2006). Any attempt to render the researcher or the interpersonal, social and institutional context invisible in a research is 'pathetic', and this unfortunate development is worsened by the growth in the use of computer-assisted qualitative data analysis programmes (Mauthner and Doucet, 2003). Two forms of reflexivity are here presented to highlight the researcher's role: epistemological reflexivity and personal reflexivity. Discussion from these two perspectives is intertwined.

Espousing the interpretivist paradigm, the research process has been reinforced by its philosophical underpinnings. Thus, I set out to study the culturally derived and historically situated interpretations of the social life-world of public servants in UK and Ghana. Again, I conceded that reality does not exist outside me and that my experience, social background and other factors help to construct this reality. My belief was that meaning is hidden and must be brought to the surface through researcher-participant dialogue. In this sense, I agreed with Crotty (1998) that all meaningful reality is socially constructed. At the end, I have assumed that multiple, 'apprehendable' and equally valid realities exist and that my dialogue and interaction with the participants jointly create (co-construct) findings. It will suffice to say that as meaning is socially constructed, I set out to study how knowledge in the public set can be managed through the lenses of public sector workers; bestowed upon them by their culture, encompassing their values, beliefs and experiences.

I had assumed at the beginning that public servants and administrators in UK would act differently from those in Ghana as far as perception of the role of knowledge in public administration is concerned. With different beliefs and cultural values, I had decided to synthesize finding from both settings to reach outcome that will find meaning in the Ghanaian context. Reflecting on the outcomes and my personal experience, this research lends credence to my interpretive stance. Viewed in a sense as a cross-cultural study, the different interpretations that the same phenomenon has in different places at different times were most striking. For instance, where leadership was at fault, participants in UK articulated their views more 'liberatingly', resonating with the prevalent culture of free speech.

I want to reflect on my role as a public servant in the research process. I have been a public servant since 2002 and so very conversant with the structures in the Ghanaian public sector. Apart from two respondents who are my colleagues in the same organisation, the rest of the participants from Ghana worked else and previously unknown to me. Reflecting on the interviews, I can deduce that some saw the research as an avenue to air their frustration with some

management strategies and behaviours. Others were protective and did not want to be seen as giving their management away. While in both cases participants invariably gave their opinions on the subject at stake, the differences lie in the depth, tone of their speech and choice of words. I have concluded that participants' backgrounds and alliances must be investigated, where possible, if the research puts some members of the organisation in the spotlight.

An interesting observation was the role my position as a senior public officer and a PhD student played in the research. I observed that participants in the UK were palpably respectful. I presume the thought of a PhD study with the connotation of seeking knowledge, trying to improve a situation, might have resonated well with them. The rapport was exhilarating and I felt welcomed at each of the interview sessions. A number of the UK participants expressed their willingness to offer support when KM gets the nod from top public officials in Ghana. Coupled with my status, these might have occasioned their openness and candidness.

This reflection will not be complete if I do not comment on the language used to present the procedures and results of research. The interpretive underpinnings of this research suggest that the rhetoric structure should be personalised (Ponterotto, 2005). The question now is whose voice must dominate – the participants' or mine? At the data analysis and interpretation phase, I have tried to project the voice of the participants as much as practicable. Meaning having been co-constructed, my voice would certainly be heard, which in many ways reflect my own experience, expectations, biases, and values.

It is my hope that this reflexive account will give research audiences a clue as to how I honestly confronted my experiences, values, beliefs and biases in this study.

5.7 CHAPTER SUMMARY

This final chapter provided an overview of the overall purpose and accomplishments of the research. A description of how the research objectives were accomplished has been provided. More importantly, the contributions of the research to the body of knowledge in the subject area have been projected. In particular, significant contributions of the study to public sector knowledge management theory and practice have been exhaustively presented and discussed. Discussion of these contributions has been strewn with the unique place of the proposed theories and the developed framework in the Ghanaian context. The chapter concluded with a brief discussion of the limitations of the study, recommendations for further research and a reflection on the research.

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APPENDICES

APPENDIX 1 – KAM VARIABLES

APPENDIX 1: KAM Variables – Overall Performance of the Economy

(Source: The Knowledge Assessment Methodology (KAM) website (www.worldbank.org/kam)

Average Annual Gross Domestic Product (GDP) Growth, 1993-97 and 2005-2009 (%) (DDP) Annual GDP growth is a good indicator of a country's overall economic development. World Bank and OECD national accounts data.

Gross Domestic Product (GDP) Per Capita, 2009 (international current PPP $) (DDP) World Bank and OECD national accounts data.

Gross Domestic Product (GDP) (current US$ bill.), 2009 (DDP) World Bank and OECD national accounts data.

Human Development Index (HDI), 2010 (UNDP Human Development Report 2010) Table 1. The HDI provides information on the human development aspect of economic growth. The HDI is based on three indicators: longevity, as measured by life expectancy at birth; educational attainment, as measured by a combination of adult literacy rate and the combined gross primary, secondary and tertiary enrolment ratio; and standard of living, as measured by GDP per capita (Purchasing Power Parity US$).

Multidimensional Poverty Index, 2008 (UNDP Human Development Report 2010) Tables 5. A measure of serious deprivations in the dimensions of health, education and living standards that combines the number of deprived and the intensity of their deprivation.

Gender Inequality Index, 2008 (UNDP Human Development Report 2010) Table 4. A measure that captures the loss in achievements due to gender disparities in the dimensions of reproductive health, empowerment and labor force participation. Values range from 0 (perfect equality) to 1 (total inequality).

Seats in Parliament Held by Women (as % of total), 2009 (UNDP Human Development Report 2009) Table K. This refers held by women in a lower or single house or an upper house or senate, where relevant.

Composite Risk Rating, July 2010- June 2011 (monthly average) (International Country Risk Guide) The rating is an overall index, ranging from 0 to 100, based on 22 components of political, financial and economic risk: very high risk (00.0 to 49.9), high risk (50.0 to 59.9), moderate risk (60.0 to 69.9), low risk (70.0 to 79.9), and very low risk (80.0 to 100).

APPENDIX 2: KAM Variables – Economic Regime

(Source: The Knowledge Assessment Methodology (KAM) website (www.worldbank.org/kam)

Gross Capital Formation as % of GDP (Average), 2005-2009 (DDP) GCF consists of outlays on additions to the fixed assets of the economy plus net changes in the level of inventories. World Bank and OECD national accounts data.

Trade as % of GDP, 2009 (DDP) The sum of exports and imports of goods and services, measured as a share of GDP. World Bank and OECD national accounts data.

Tariff & Nontariff Barriers, 2011 (Heritage Foundation) This is a score assigned to each country based on the analysis of its tariff and non-tariff barriers to trade, such as import bans and quotas as well as strict labelling and licensing requirements. The score is based on the Heritage Foundation's Trade Freedom score.

Soundness of Banks, 2010 (WEF Global Competitiveness Report 2010-2011) Table 8.07. This is based on the statistical score on a 1-7 scale of a large sample group in a particular country responding to the question of whether "banks are generally sound" in their country. (1= insolvent and may require government bailout, 7= generally healthy with sound balance sheets).

Exports of Goods and Services as % of GDP, 2009 (DDP) This includes the value of merchandise, freight, insurance, transport, travel, royalties, license fees, and other services, such as communication, construction, financial, information, business, personal, and government services. This excludes labour and property income as well as transfer payments. World Bank and OECD national accounts data.

Interest Rate Spread (lending rate minus deposit rate), 2009(DDP) The interest rate charged by banks on loans to prime customers minus the interest rate paid by commercial or similar banks for demand, time, or savings deposits. International Monetary Fund, International Financial Statistics and data files.

Intensity of Local Competition, 2010 (WEF Global Competitiveness Report 2010-2011) Table 6.01. This is based on the statistical score on a 1-7 scale of a large sample group in a particular country responding to the question of whether competition in the local markets is intense in their country. (1= limited in most industries and price-cutting is rare, 7 = intense and market leadership changes over time).

Domestic Credit to Private Sector (% of GDP), 2009 (DDP) Indicator refers to financial resources provided to the private sector, such as through loans, purchases of non-equity securities, and trade credits and other accounts receivable that establish a claim for repayment. For some countries these claims include credit to public enterprises. International Monetary Fund, International Financial Statistics and data files, and World Bank and OECD GDP estimates.

Cost to Register a Business (% of GNI per capita), 2011 (Doing Business) Official costs of business registration.

Days Required to Start a Business, 2011 (Doing Business) Duration of all procedures required to register a firm.

APPENDIX 3: KAM Variables – Governance

(Source: The Knowledge Assessment Methodology (KAM) website (www.worldbank.org/kam)

Regulatory Quality, 2009 (Governance Indicators, World Bank) This indicator measures the incidence of market-unfriendly policies such as price controls or inadequate bank supervision, as well as perceptions of the burdens imposed by excessive regulation in areas such as foreign trade and business development.

Rule of Law, 2009 (Governance Indicators, World Bank) This indicator includes several indicators which measure the extent to which agents have confidence in and abide by the rules of society. These include perceptions of the incidence of both violent and non-violent crime, the effectiveness and predictability of the judiciary, and the enforceability of contracts.

Government Effectiveness, 2009 (Governance Indicators, World Bank) This indicator combines into one grouping perceptions of the quality of public service provision, the quality of the bureaucracy, the competence of civil servants, the independence of the civil service from political pressures, and the credibility of the government's commitment to policies.

Voice and Accountability, 2009 (Governance Indicators, World Bank) This is a composite indicator and comprises a number of individual indicators measuring various aspects of the political process, civil liberties and political rights. This index measures the extent to which citizens of a country are able to participate in the selection of governments. Also, included are indicators measuring the independence of the media, which serves an important role in monitoring those in authority and holding them accountable for their actions.

Political Stability, 2009 (Governance Indicators, World Bank) This index combines several indicators which measure perceptions of the likelihood that the government in power will be destabilized or overthrown by possibly unconstitutional means and/or violent means. This index captures the idea that the quality of governance in a country is compromised by the likelihood of wrenching changes in government, which not only has a direct effect on the continuity of policies, but also at a deeper level undermines the ability of the citizens to peacefully select and replace those in power.

Control of Corruption, 2009 (Governance Indicators, World Bank) This indicator corresponds to "graft" measures of corruption. Notably, corruption measured by the frequency of "additional payments to get things done" and the effects of corruption on the business environment.

Press Freedom, 2010 (Freedom House) The cumulative score of the degree of press freedom in a country. Countries scoring 0 to 30 are regarded as having "Free" media, 31-60, "Partly Free" media and 61 to 100, "Not Free" media.

APPENDIX 4a: KAM Variables – Innovation System

(Source: The Knowledge Assessment Methodology (KAM) website (www.worldbank.org/kam)

FDI Outflows as % of GDP, 2004-08 (average) (UNCTAD) Outflows of FDI in the reporting economy comprise capital provided (either directly or through other related enterprises) by a company resident in the economy (foreign direct investor) to an enterprise resident in another country. UNCTAD and World Bank staff calculation.

FDI Inflows as % of GDP, 2004-08 (average) (UNCTAD) Inflows of FDI in the reporting economy comprise capital provided (either directly or through other related enterprises) by a foreign direct investor to an enterprise resident in the economy. UNCTAD and World Bank staff calculation.

Royalty and License Fees Payments, (US$ millions), 2009 (DDP) These are payments between residents and non-residents for the authorized use of intangible, non-produced, non-financial assets and proprietary rights (such as patents, copyrights, trademarks, industrial processes, and franchises) and for the use, through licensing agreements, of produced originals of prototypes, such as manuscripts and films. International Monetary Fund, Balance of Payments Statistics Yearbook and data files.

Royalty and License Fees Payments (US$ millions) Per Million Population, 2009 (DDP) This is the variable above, weighted by million population per country.

Royalty and License Fees Receipts (US$ millions), 2009 (DDP) These are receipts between residents and non-residents for the authorized use of intangible, non-produced, non-financial assets and proprietary rights (such as patents, copyrights, trademarks, industrial processes, and franchises) and for the use, through licensing agreements, of produced originals of prototypes (such as manuscripts and films). International Monetary Fund, Balance of Payments Statistics Yearbook and data files.

Royalty and License Fees Receipts (US$ millions) Per Million Population, 2009 (DDP) This is the variable above, weighted by million population.

Royalty and License Fees Payments and Receipts (US$ millions), 2009 Royalty and License Fees Payments (US$ mil.) + Royalty and License Fees Receipts (US$ mil.).

Royalty and License Fees Payments and Receipts (US$ millions) Per Million Population, 2009, Royalty and License Fees Payments (per mil pop.) + Royalty and License Fees Receipts (per mil pop.).

Science and Engineering Enrolment Ratio, 2009 (as % of tertiary enrolment students) (UNESCO) This includes the fields of science (except social science), engineering, manufacturing and construction.

Science Enrolment Ratio, 2009 (as % of tertiary enrolment students) (UNESCO) This includes the field of science only, except social science.

Researchers in R&D, 2009 (UNESCO) The total number of researchers engaged in R&D, as reported in the selected R&D indicators section of the UNESCO yearbook.

Researchers in R&D Per Million Population, 2009 (UNESCO) This is the variable above weighted by million population.

Total Expenditure for R&D as % of GDP, 2008 (UNESCO) Included are fundamental and applied research and experimental development work leading to new devices, products, and processes.

APPENDIX 4b: KAM Variables – Innovation System

(Source: The Knowledge Assessment Methodology (KAM) website (www.worldbank.org/kam)

Manufacturing Trade as Percentage of GDP, 2009 (DDP) The total volume of manufactured exports and imports over the total GDP. World Trade Organization, International Monetary Fund, Balance of Payments Statistics Yearbook and data files.

University-Company Research Collaboration, 2010 (WEF Global Competitiveness Report 2010-2011) Table 12.04. This is based on the statistical score on a 1-7 scale of a large sample group in a particular country responding to the question of whether companies' collaboration with local universities in research and development activities in their country is (1= minimal or nonexistent, 7= intensive and ongoing).

Scientific and Technical Journal Articles, 2007 (DDP) This refers to scientific and engineering articles published in the following fields: physics, biology, chemistry, mathematics, clinical medicine, biomedical research, engineering and technology, and earth and space sciences. National Science Foundation, Science and Engineering Indicators. Sources: Thomson Reuters, SCI and SSCI; The Patent Board; and National Science Foundation, Division of Science Resources Statistics, special tabulations.

Scientific and Technical Journal Articles Per Million Population, 2007 (DDP) This is the variable above, weighted by million population. Sources: Thomson Reuters, SCI and SSCI; The Patent Board; and National Science Foundation, Division of Science Resources Statistics, special tabulations.

Availability of Venture Capital, 2010 (WEF Global Competitiveness Report 2010-2011) Table 8.04. This is based on the statistical score on a 1-7 scale of a large sample group in a particular country responding to the question of whether entrepreneurs with innovative but risky projects can generally find venture capital in their country. (1= not true, 7= true).

Patent Applications Granted by the USPTO, average for 2005-09 (USPTO) Shows the number of U.S. patent documents (i.e., utility patents, design patents, plant patents, reissue patents, defensive publications, and statutory invention registrations) granted.

Patent Applications Granted by the USPTO Per Million People, average for 2005-09 (USPTO) This is the variable above weighted by million population.

High-Technology Exports as % of Manufactured Exports, 2009 (DDP) High-technology exports are products with high R&D intensity, such as in aerospace, computers, pharmaceuticals, scientific instruments, and electrical machinery.

Private Sector Spending on R&D, 2010 (WEF Global Competitiveness Report 2010-2011) Table 12.03. This is based on the statistical score on a 1-7 scale of a large sample group in a particular country responding to the question of whether companies spend heavily on research in their country. (1= do not spend, 7 = spend heavily relative to international peers).

Firm-Level Technology Absorption, 2010 (WEF Global Competitiveness Report 2010-20011) Table 9.02. This is based on the statistical score on a 1-7 scale of a large sample group in a particular country responding to the question of whether the companies in you country are (1= not able to absorb new technology, 7 = aggressive in absorbing new technology).

APPENDIX 4c: KAM Variables – Innovation System

(Source: The Knowledge Assessment Methodology (KAM) website (www.worldbank.org/kam)

Value Chain Breadth, 2010 (WEF Global Competitiveness Report 2010-2011) Table 11.05. In your country, do exporting companies have a narrow or broad presence in the value chain? [1 = narrow, primarily involved in individual steps of the value chain (e.g., resource extraction or production); 7 = broad, present across the entire value chain (i.e., do not only produce but also perform product design, marketing sales, logistics, and after-sales services)

Capital Goods Gross Imports (% of GDP), 2005-09 avg (World Integrated Trade Solution) The indicator can be derived from disaggregated international trade statistic within section 7 of the Standard Trade Classification(SITC). One can usually excludes consumer goods such as domestic appliances, television receivers, ratios and broadcast receivers, passenger motor cars and chassis, and motor cycles and bicycles. World Integrated Trade Solution, UN Comtrade HS1988/92, World Bank staff computation.

Capital Goods Gross Exports (% of GDP), 2005-09 avg (World Integrated Trade Solution) The indicator can be derived from disaggregated international trade statistic within section 7 of the Standard Trade Classification(SITC). One can usually excludes consumer goods such as domestic appliances, television receivers, ratios and broadcast receivers, passenger motor cars and chassis, and motor cycles and bicycles. World Integrated Trade Solution, UN Comtrade HS1988/92, World Bank staff computation.

S&E articles with foreign co-authorship (%), 2008 This refers to the share of published S&E articles which have foreign coauthors. It is calculated by dividing the number of papers a specific country participated in with 1 or more foreign institutional authors by the total number of papers the specific country participated in. Article counts from the set of journals covered by the Science Citation Index (SCI) and Social Sciences Citation Index (SSCI). Articles classified by tape year (the year they entered the database), rather than the year of publication, and assigned to region/country/economy on basis of institutional address(es) listed on article. Articles on whole-count basis, i.e., each collaborating region/country/economy credited one count. Sources: Thomson Reuters, SCI and SSCI; The Patent Board; and National Science Foundation, Division of Science Resources Statistics, special tabulations, World Bank staff computation.

Average number of citations per S&E article, 2008 Citation counts from set of journals covered by Science Citation Index (SCI) and Social Sciences Citation Index (SSCI). Articles classified by tape year (the year they entered the database), rather than the year of publication, and assigned to region/country/economy on basis of institutional address(es) listed on the article. Citations on fractional-count basis, i.e., for articles with collaborating institutions from multiple countries/economies, each country/economy receives fractional credit on basis of proportion of its participating institutions. Citation counts based on 3-year period with 2-year lag, e.g., citations for 2005 are references made in articles in 2005 data tape to articles in 2001-03 data tapes. The average number of citations per published S&E article for 2005 is the total number of citations referred in S&E articles in 2005 tape year divided by the number of S&E articles in 2001, 2002 and 2003 tape year. Source: Thomson Reuters, SCI and SSCI; The Patent Board; and National Science Foundation, Division of Science Resources Statistics, special tabulations, World Bank staff computation.

Intellectual Property Protection, 2010 (WEF Global Competitiveness Report 2010-2011) Table 1.02. This is based on the statistical score on a 1-7 scale of a large sample group in a particular country responding to the question of whether intellectual property protection is strong in their country (1= weak or nonexistent, 7 = is equal to the world's most stringent).

APPENDIX 5a: KAM Variables – Education

(Source: The Knowledge Assessment Methodology (KAM) website (www.worldbank.org/kam)

Adult Literacy Rate (% age 15 and above), 2007 (UNESCO) Adult literacy rate is the percentage of people ages 15 and above who can, with understanding, read and write a short, simple statement on their everyday life.

Average Years of Schooling, 2010 (15 years old and above) (Barro and Lee) This variable is used as an aggregate measure of the educational stock in a country.

Average Years of Schooling, female 2010 (15 years old and above) (Barro and Lee) This variable is used as an aggregate measure of the educational stock in a country.

Secondary Enrolment (% gross), 2009 (UNESCO) The ratio of total enrolment, regardless of age, to the population of the age group that officially corresponds to the level of education shown.

Tertiary Enrolment (% gross), 2009 (UNESCO) The ratio of total enrolment, regardless of age, to the population of the age group that officially corresponds to the level of education shown.

Life Expectancy at Birth, 2009 (DDP) The number of years a newborn infant would live if prevailing patterns of mortality at its time of birth were to stay the same throughout its life.

Internet Access in Schools, 2010 (WEF Global Competitiveness Report 2010-2011) Table 5.06. This is based on the statistical score on a 1-7 scale of a large sample group in a particular country responding to the question of whether internet access in schools in their country is (1= very limited, 7= pervasive-most children have frequent access).

Public Spending on Education as % of GDP, 2009 (DDP) This consists of public spending on public education plus subsidies to private education at the primary, secondary, and tertiary levels.

4th Grade Achievement in Mathematics, 2007 (Trends in International Mathematics and Science Study, TIMSS) This is based on the score assigned to the performance of 4th grade students on a standardized mathematics test.

4th Grade Achievement in Science, 2007 (Trends in International Mathematics and Science Study, TIMSS) This is based on the score assigned to the performance of 4th grade students on a standardized science test.

8th Grade Achievement in Mathematics, 2007 (Trends in International Mathematics and Science Study, TIMSS) This is based on the score assigned to the performance of 8th grade students on a standardized mathematics test.

8th Grade Achievement in Science, 2007 (Trends in International Mathematics and Science Study, TIMSS) This is based on the score assigned to the performance of 8th grade students on a standardized science test.

Quality of Science and Math Education, 2010 (WEF Global Competitiveness Report 2010-2011). This is based on the statistical score on a 1-7 scale of a large sample group in a particular country responding to the question of whether math and science education in you country's schools (1 = lag far behind most of the countries, 7 = are among the best in the world).

APPENDIX 5b: KAM Variables – Education

(Source: The Knowledge Assessment Methodology (KAM) website (www.worldbank.org/kam)

Quality of Management Education, 2010 (WEF Global Competitiveness Report 2010-2011). This is based on the statistical score on a 1-7 scale of a large sample group in a particular country asked to rate the "quality of local management schools". (1= limited or of poor quality, 7 = among the world's best).

15-year-olds' math literacy, 2009 (OECD Program for International Student Assessment, PISA) Scores of 15-year-old students in mathematics literacy.

15-year-olds' science literacy, 2009 (OECD Program for International Student Assessment, PISA) Scores of 15-year-old students in science literacy.

School Enrolment, Secondary, Female (% gross), 2009 (UNESCO) The ratio of total enrolment, regardless of age, to the population of the age group that officially corresponds to the level of education shown.

School Enrolment, Tertiary, Female (% gross), 2009 (UNESCO) The ratio of total enrolment, regardless of age, to the population of the age group that officially corresponds to the level of education shown.

No Schooling, total, 2010 (Barro and Lee) Percentage of population, 15+, total, no education is the percentage of the population over age 15 with no education.

No Schooling, female, 2010 (Barro and Lee) Percentage of population, 15+, female, no education is the percentage of the female population over age 15 with no education.

Secondary School completion, total (% of pop 15+), 2010 (Barro and Lee) Percentage of population, 15+, total, completed secondary is the percentage of people over age 15 who have completed secondary education.

Secondary School completion, female (% of pop 15+), 2010 (Barro and Lee) Percentage of population, 15+, female, completed secondary is the percentage of females over age 15 who have completed secondary education.

Tertiary School completion ,total (% of pop 15+), 2010 (Barro and Lee) Percentage of population, 15+, total, completed tertiary is the percentage of people over age 15 who have completed tertiary education.

Tertiary School completion , female(% of pop 15+), 2010 (Barro and Lee) Percentage of population, 15+, female, completed tertiary is the percentage of females over age 15 who have completed tertiary education.

APPENDIX 6a: KAM Variables – Labour

(Source: The Knowledge Assessment Methodology (KAM) website (www.worldbank.org/kam)

Unemployment Rate (% of total labour force), 2005-2009 (International Labour Organization) The share of the labour force that is without work but available for and seeking employment. International Labour Organization key indicators of the labour market.

Unemployment Rate, male (% of male labour force), 2005-2009 (International Labour Organization) The share of the labour force that is without work but available for and seeking employment. International Labour Organization key indicators of the labour market.

Unemployment Rate, female (% of female labour force), 2005-2009 (International Labour Organization) The share of the labour force that is without work but available for and seeking employment. International Labour Organization key indicators of the labour market.

Employment in Industry (% of total employment), 2008 (DDP) The proportion of total employment recorded as working in the industrial sector. Industry includes mining and quarrying (including oil production), manufacturing, electricity, gas and water, and construction.

Employment in Services (% of total employment), 2008 (DDP) The proportion of total employment recorded as working in the services sector. Services include wholesale and retail trade and restaurants and hotels; transport, storage, and communications; financing, insurance, real estate, and business services; and community, social, and personal services.

Professional and Technical Workers as % of the Labour Force, 2008 (ILO Labour Statistics) This involves calculation of total number of technical and professional workers as a percentage of the labour force. Data were obtained from Table 2C - Total employment, by occupation.

Extent of Staff Training, 2010 (WEF Global Competitiveness Report 2010-2011) Table 5.08. This is based on the statistical score on a 1-7 scale of a large sample group in a particular country responding to the question of whether "in your country, the general approach to human resources is to invest" (1= little in training and development, 7 = heavily to attract, train, and retain staff).

Brain Drain, 2010 (WEF Global Competitiveness Report 2010-2011)Table 7.08. This is based on the statistical score on a 1-7 scale of a large sample group in a particular country asked to rate whether the country's talented people (1= normally leave to pursue opportunities in other countries, 7= almost always remain in the country).

Cooperation in labour-employer relations, 2010 (WEF Global Competitiveness Report 2010-2011) Table 7.01 Labour-employer relations in your country are (1 = generally confrontational, 7 = generally cooperative).

Flexibility of wage determination, 2010 (WEF Global Competitiveness Report 2010-2011) Table 7.02. In your country, wages are (1 = set by a centralized bargaining process, 7 = up to each individual company).

Pay and productivity, 2010 (WEF Global Competitiveness Report 2010-2011) Table 7.06. In your country, pay is (1 = not related to worker productivity, 7 = strongly related to worker productivity).

Reliance on professional management, 2010 (WEF Global Competitiveness Report 2010-2011) Table 7.07. Senior management positions in your country are (1 = usually held by relatives or friends without regard to merit, 7 = mostly held by professional managers chosen for their superior qualification).

APPENDIX 6b: KAM Variables – Labour

(Source: The Knowledge Assessment Methodology (KAM) website (www.worldbank.org/kam)

Local availability of specialized research and training services, 2010 (WEF Global Competitiveness Report 2010-2011) Table 5.07. In your country, specialized research and training services are (1 = not available, 7 = available from world-class local institutions).

Difficulty of hiring index, 2010 (Doing Business) Applicability and maximum duration of fixed-term contracts and minimum wage for trainee or first-time employee. Higher values indicate more rigid regulations.

Rigidity of hours index, 2010 (Doing Business) Scheduling of nonstandard work hours and annual paid leave.

Difficulty of Redundancy index, 2010 (Doing Business) Notification and approval requirements for termination of a redundant worker or a group of redundant workers, obligation to reassign or retrain and priority rules for redundancy and reemployment.

Redundancy costs, 2010 (Doing Business) Notice requirements, severance payments and penalties due when terminating a redundant worker, expressed in weeks of salary.

Labour tax and contributions (%), 2011 (Doing Business) amount of taxes and mandatory contributions on labour paid by the business as a percentage of commercial profits. This amount include mandatory social security contributions paid by the employer both to public and private entities, as well as other taxes or contributions related to employing workers.

Employment to population ratio, 15+, total (%), 2005-09 avg (International Labour Organization) the proportion of a country's population that is employed. Ages 15 and older are generally considered the working-age population**.** International Labour Organization key indicators of the labour market.

Employment to population ratio, 15+, male (%), 2005-09 avg (International Labour Organization) The proportion of a country's population that is employed. Ages 15 and older are generally considered the working-age population**.** International Labour Organization key indicators of the labour market.

Employment to population ratio, 15+, female (%), 2005-09 avg (International Labour Organization) The proportion of a country's population that is employed. Ages 15 and older are generally considered the working-age population**.** International Labour Organization key indicators of the labour market.

Employment to population ratio, ages 15-24, total (%), 2005-09 (International Labour Organization) Employment to population ratio is the proportion of a country's population that is employed. Ages 15-24 are generally considered the youth population. International Labour Organization key indicators of the labour market.

Employment to population ratio, ages 15-24, male (%), 2005-09 (International Labour Organization) Employment to population ratio is the proportion of a country's population that is employed. Ages 15-24 are generally considered the youth population. International Labour Organization key indicators of the labour market.

Employment to population ratio, ages 15-24, female (%), 2005-09 (International Labour Organization) Employment to population ratio is the proportion of a country's population that is employed. Ages 15-24 are generally considered the youth population. International Labour Organization key indicators of the labour market.

APPENDIX 6c: KAM Variables – Labour

(Source: The Knowledge Assessment Methodology (KAM) website (www.worldbank.org/kam)

Employment to population ratio, Total, 25+ (%) 2005-09 (International Labor Organization) Employment to population ratio is the proportion of a country's population that is employed. International Labour Organization key indicators of the labor market.

Employment to population ratio, Male, 25+ (%) 2005-09 (International Labor Organization) Employment to population ratio is the proportion of a country's population that is employed. International Labour Organization key indicators of the labor market.

Employment to population ratio, Female, 25+ (%) 2005-09 (International Labor Organization) Employment to population ratio is the proportion of a country's population that is employed. International Labour Organization key indicators of the labor market.

Unemployment with tertiary education, total (% of total unemployment), 2007 (DDP) Unemployment by level of educational attainment shows the unemployed by level of educational attainment, as a percentage of the unemployed.

Unemployment with secondary education, total (% of total unemployment), 2007 (DDP) Unemployment by level of educational attainment shows the unemployed by level of educational attainment, as a percentage of the unemployed.

Labor force participation rate, 15+, 2005-09 (International Labor Organization) Labor force participation rate is the proportion of the population ages 15 and above that is economically active: all people who supply labor for the production of goods and services during a specified period. International Labour Organization key indicators of the labor market.

Labor force participation rate, Male, 15+, 2005-09 (International Labor Organization) Labor force participation rate is the proportion of the population ages 15 and above that is economically active: all people who supply labor for the production of goods and services during a specified period. International Labour Organization key indicators of the labor market.

Labor force participation rate, Female, 15+, 2005-09 (International Labor Organization) Labor force participation rate is the proportion of the population ages 15 and above that is economically active: all people who supply labor for the production of goods and services during a specified period. International Labour Organization key indicators of the labor market.

Labor force participation rate,total, 15-24, 2005-09 (International Labor Organization) Labor force participation rate is the proportion of the population ages 15-24 that is economically active: all people who supply labor for the production of goods and services during a specified period. International Labour Organization key indicators of the labor market.

Labor force participation rate, Male, 15-24, 2005-09 (International Labor Organization) Labor force participation rate is the proportion of the population ages 15-24 that is economically active: all people who supply labor for the production of goods and services during a specified period. International Labour Organization key indicators of the labor market.

Labor force participation rate, Female, 15-24, 2005-09 (International Labor Organization) Labor force participation rate is the proportion of the population ages 15-24 that is economically active: all people who supply labor for the production of goods and services during a specified period. International Labour Organization key indicators of the labor market.

APPENDIX 6d: KAM Variables – Labour

(Source: The Knowledge Assessment Methodology (KAM) website (www.worldbank.org/kam)

Labour force participation rate, total 15-64, 2005-09 (International Labour Organization) Labour force participation rate is the proportion of the population ages 15-64 that is economically active: all people who supply labour for the production of goods and services during a specified period. International Labour Organization key indicators of the labour market.

Labour force participation rate, Male, 15-64, 2005-09 (International Labour Organization) Labour force participation rate is the proportion of the population ages 15-64 that is economically active: all people who supply labour for the production of goods and services during a specified period. International Labour Organization key indicators of the labour market.

Labour force participation rate, Female, 15-64, 2005-09 (International Labour Organization) Labour force participation rate is the proportion of the population ages 15-64 that is economically active: all people who supply labour for the production of goods and services during a specified period. International Labour Organization key indicators of the labour market.

Labour force participation rate, total, 65+, 2005-09 (International Labour Organization) Labour force participation rate is the proportion of the population ages 65 and older that is economically active: all people who supply labour for the production of goods and services during a specified period. International Labour Organization key indicators of the labour market.

Labour force participation rate, Male, 65+, 2005-09 (International Labour Organization) Labour force participation rate is the proportion of the population ages 65 and older that is economically active: all people who supply labour for the production of goods and services during a specified period. International Labour Organization key indicators of the labour market.

Labour force participation rate, Female, 65+, 2005-09 (International Labour Organization) Labour force participation rate is the proportion of the population ages 65 and older that is economically active: all people who supply labour for the production of goods and services during a specified period. International Labour Organization key indicators of the labour market.

Youth unemployment rate, total, 2005-09 (International Labour Organization) Youth unemployment refers to the share of the labour force ages 15-24 without work but available for and seeking employment. Definitions of labour force and unemployment differ by country. International Labour Organization key indicators of the labour market.

Youth unemployment rate, Male, 2005-09 (International Labour Organization) Youth unemployment refers to the share of the labour force ages 15-24 without work but available for and seeking employment. Definitions of labour force and unemployment differ by country. International Labour Organization key indicators of the labour market.

Youth unemployment rate, Female, 2005-09 (International Labour Organization) Youth unemployment refers to the share of the labour force ages 15-24 without work but available for and seeking employment. Definitions of labour force and unemployment differ by country. International Labour Organization key indicators of the labour market.

APPENDIX 6e: KAM Variables – Labour

(Source: The Knowledge Assessment Methodology (KAM) website (www.worldbank.org/kam)

Adult unemployment rate, total, 2005-09 (International Labour Organization) Adult unemployment refers to the share of the labour force ages 25 and over without work but available for and seeking employment. Definitions of labour force and unemployment differ by country. International Labour Organization key indicators of the labour market.

Adult unemployment rate, Male, 2005-09 (International Labour Organization) Adult unemployment refers to the share of the labour force ages 25 and over without work but available for and seeking employment. Definitions of labour force and unemployment differ by country. International Labour Organization key indicators of the labour market.

Adult unemployment rate, Female, 2005-09 (International Labour Organization) Adult unemployment refers to the share of the labour force ages 25 and over without work but available for and seeking employment. Definitions of labour force and unemployment differ by country. International Labour Organization key indicators of the labour market.

Share of youth unemployment in total unemployment, total, 2005-09 (International Labour Organization) Youth unemployment refers to the share of the labour force ages 15-24 without work but available for and seeking employment. Definitions of labour force and unemployment differ by country. International Labour Organization key indicators of the labour market.

Share of youth unemployment in total unemployment, Male, 2005-09 (International Labour Organization) Youth unemployment refers to the share of the labour force ages 15-24 without work but available for and seeking employment. Definitions of labour force and unemployment differ by country. International Labour Organization key indicators of the labour market.

Share of youth unemployment in total unemployment, Female, 2005-09 (International Labour Organization) Youth unemployment refers to the share of the labour force ages 15-24 without work but available for and seeking employment. Definitions of labour force and unemployment differ by country. International Labour Organization key indicators of the labour market.

Long-term unemployment, total, 25+, 2005-09 (International Labour Organization) Long-term unemployment refers to the number of people with continuous periods of unemployment extending for a year or longer, expressed as a percentage of the total unemployed. International Labour Organization key indicators of the labour market.

Long-term unemployment, Male, 25+, 2005-09 (International Labour Organization) Long-term unemployment refers to the number of people with continuous periods of unemployment extending for a year or longer, expressed as a percentage of the total unemployed. International Labour Organization key indicators of the labour market.

Long-term unemployment, Female, 25+, 2005-09 (International Labour Organization) Long-term unemployment refers to the number of people with continuous periods of unemployment extending for a year or longer, expressed as a percentage of the total unemployed. International Labour Organization key indicators of the labour market.

Labour force with tertiary education (% of total), 2007 (DDP) Labour force with tertiary education is the proportion of labour force that has a tertiary education, as a percentage of the total labour force.

Labour force with secondary education (% of total), 2007 (DDP) Labour force with secondary education is the proportion of the labour force that has a secondary education, as a percentage of the total labour force.

Firms offering formal training (% of firms) , 2009 (DDP) Firms offering formal training are the percentage of firms offering formal training programs for their permanent, full-time employees.

Females in Labour Force (% of total labour force), 2009 (DDP) Labour force comprises all people who meet the International Labour Organization's definition of the economically active population. International Labour Organization.

APPENDIX 7: KAM Variables – Information and Communication Technology

(Source: The Knowledge Assessment Methodology (KAM) website (www.worldbank.org/kam)

Telephones Per 1,000 People, 2009 (telephone mainlines + mobile phones) (DDP)

Telephone Mainlines Per 1,000 People, 2009 (DDP)Telephone mainlines are telephone lines connecting a customer's equipment to the public switched telephone network.

Mobile Phones Per 1,000 People, 2009 (DDP) Mobile telephone subscribers are subscribers to a public mobile telephone service using cellular technology.

Computers Per 1,000 Persons, 2008 (DDP) Personal computers are self-contained computers designed to be used by a single individual.

TV Households with Television, 2008 (DDP) are the share of households with a television set. Some countries report only the number of households with a colour television set, and therefore the true number may be higher than reported. International Telecommunication Union, World Telecommunication Development Report and database, and World Bank estimates.

Daily Newspapers Per 1,000 People, 2004 (total average circulation or copies printed) (DDP) Daily newspapers refer to those published at least four times a week.

International Internet Bandwidth (bits per person), 2009 (DDP) This is the contracted capacity of international connections between countries for transmitting Internet traffic. International Telecommunication Union, World Telecommunication Development Report and database, and World Bank estimates.

Internet Users Per 1,000 people, 2009 (DDP) The indicator relies on nationally reported data. In some cases, it is based on national surveys (they differ across countries in the age and frequency of use they cover), in others it is derived from reported Internet Service Provider subscriber counts.

Fixed broadband internet access tariff (US$ per month), 2009 (DDP) Fixed broadband Internet access tariff is the lowest sampled cost per 100 kilobits a second per month and are calculated from low- and high-speed monthly service charges. Monthly charges do not include installation fees or modem rentals.

Availability of e-Government Services, 2008 (WEF The Global Information Technology Report 2008/2009) Table 9.02. This is based on a large sample group in a particular country responding to the question of whether the "online government services, such as personal tax, car registration, passport, business permit, and e-procurement are (1 = not available, 7 = extensively available) (1= low, 7 = high).

Government Online Service Index, 2010 (WEF Global Competitiveness Report 2010-2011) The Government Online Service Index assesses the quality of government's delivery of online services.

ICT Expenditure as % of GDP, 2008 (DDP) Information and communications technology (ICT) expenditures include external spending on information technology ("tangible" spending on information technology products purchased by businesses, households, governments, and education institutions from vendors or organizations outside the purchasing entity), internal spending on information technology ("intangible" spending on internally customized software, capital depreciation, and the like), and spending on telecommunications and other office equipment. World Information Technology and Services Alliance, Digital Planet 2004: The Global Information Economy, and Global Insight, Inc.

APPENDIX 2 – INTERVIEW QUESTIONNAIRE (KNOWLEDGE MANAGERS)

PUBLIC SECTOR KNOWLEDGE MANAGEMENT RESEARCH QUESTIONNAIRE (UK)

Edwin Asiamah Acheampong

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Q1	**Contact person/Interviewee and organisation (These are for purposes of follow up; interviewees anonymity is guaranteed)** Interviewee details Title…….. First Name……. Surname……. Name of organisation…….. Designation …….. No. of years in the public sector…… Contact details Email……. Mobile…… Address…… ……
Q2	**Public sector organisations and knowledge management initiatives** A. When did your organisation's KM programme start? Do you have a written KM strategy? Response: B. What are the KM objectives of your organization? Response: C. Does your KM strategy cover all functional areas of your organisation? Please indicate the functional areas covered by the KM programme. Response: D. Does your organization have a formal Management structure for KM (i.e. KM roles and functions)? Response:

	E. How do you (did you) fund the KM programme? Was there any public funds (e.g. for capacity building) that you could tap into? Response: F. How was management convinced to buy into a KM idea for your organisation? Response: G. How were members of staff (employees) convinced to accept the KM programme? Did they see the KM programme as a threat to their job? Were they ready for the change that the KM programme was likely to introduce into their routine? Response: H. Did the existing organizational culture help the introduction of the KMprogramme; if it did, in what way? If it needed to be changed, how did you do it? Response: I. How do employees share knowledge among themselves? Response: J. Do employees in your organization share experiences and knowhow with their counterparts in othe organizations? If yes, how do you carry out this activity? Response: K. What organizational challenges/problems has KM helped to address? What operational improvements have you recorded since embarking on the KM initiative? Response: L. Do you think the size of your organisations poses a challenge to the KM programme? What about complexity and functional areas (or ranged of activities you have to perform)? Response:
Q3	**Knowledge Creation and Sharing**

	A. How do you acquire new knowledge which is not there in your organisation? (Buy from external partners, encourage knowledge acquisition by employees, hire consultants, universities and other research institutions) Response: B. How does the KM strategy help to generate new knowledge? Response: C. Do you have a group (or groups) of employees who meet (with or without other employees) to discuss and attempt to solve a 'common problem'? Response: D. How do you encourage knowledge creation and sharing in your organisation? (e.g. monetary incentives, performance appraisal, continuous learning and employee development) Response: E. What knowledge generation/sharing activities do you encourage in your organisation? (e.g. best practice transfer events, workshops, knowledge fairs – who knows what, tea discussions, tolerance for mistakes, corporate dictionary/index to establish common language, etc.) Response: F. What systems are in place to enable employees have quick access to information or knowledge needed for their day-to-day duties? Response: G. Have you (are you able to) allocated time for learning and knowledge exchange? Response:
Q4	**Knowledge storage and retention** A. How does your organization retain acquired knowledge? (Any set procedure – the steps can be provided, any information technology in place?) Response:

	B. How do you document knowledge? (e.g. knowledge maps – who knows what, narratives – story telling, embedding knowledge in products, services, etc.) Response: C. How do you ensure that quality knowledge objects/artefacts are retained and shared? Response:
Q5	**Business processes and functions** A. What are the knowledge intensive business processes and functions in your organisation? Response: B. How did you integrate KM activities with the core business processes? (A specific core business process can be used to explain the integration) Response:
Q6	**Knowledge management drivers and enablers** A. Do you consider knowledge-sharing aptitude of prospective employees in your recruitment process? Response: B. Are you able to set a time dedicated to KM activities or KM activities are carried out seamlessly with routine functional roles/schedules? Response: C. Do you have an open-door policy where officers can easily approach their superiors for information or to discuss pertinent issues in the course of their duties? Response: D. How does your physical infrastructure (office building and furnishing) help with knowledge sharing among employees?

Response:

E. How does your organization reward knowledge creation and knowledge sharing?

Response:

Q7 **KM Approach and Technologies**

A. Which KM approach did you employ and why?

1. Task-force approach: the organisation had a dedicated KM team. Team focused on KM as management practice.
2. Systems-centred approach: the organisation centered the whole KM initiative on a system; that is a grand IT infrastructure was deployed.
3. The hybrid approach: KM roles were embedded in functional positions so that employees combined their job functions with assigned KM roles.

Response:

B. Please, complete the table below

KM Technology	Used before or currently in use	Discontinued or to be discontinued	Reason(s) for discontinuing or to be discontinued
Corporate intranet			
Corporate extranet			
Database Mgt System			
Data Warehousing tools			
Knowledge Repositories			
Document Mgt System			
Teleconferencing			
Videoconferencing			

	Message Boards			
	Discussion Forum			
	Expert Systems/ Artificial Intelligence			
	Others (please list)			

Q8 **Challenges of Implementing KM**

A. What technical challenges did you face?

Response:

B. What organizational (including cultural, procedural, etc.) challenges did you face?

Response:

C. Did you face financial challenges? Were you able to subscribe to any form of international funding support (IMF, European Funding, etc.)

Response:

D. Are you aware of any existing regulation that can serve as an impetus for your agency/organisation to pilot a KM programme?

Response:

Q9 **Ownership, Sponsorship, and Impact of KM**

A. Who owns (or appears to own) the KM initiative or project in your organization?

Response:

B. What has been the impact of the form of KM ownership in your organization?

Response:

C. What is your opinion about ownership of the KM initiative in the public sector and KM in general?

	Response: D. Who is the main financial sponsor of the KM programme in your organization? Response: E. Can your orgainsation secure financial support from other sources? Response: F. Are you able to measure the returns on the money investment into KM activities' or the impact of KM on operations and performance? How do you (are able to) measure the benefits from KM? Response: G. What has been the overall impact of KM on your organisation? (e.g. Performance, employee satisfaction and development, customer satisfaction, etc? Response:
Q10	**Please provide any comments you may have (including warning signs to look out for) in the implementation of a KM programme in a public sector organisation.** Response:
Q11	**Please, would you be willing to grant me audience if there is the need for a follow up in the course of my research?** • **Yes** • **No**

Thank you.

APPENDIX 3 – INTERVIEW QUESTIONNAIRE (PUBLIC SERVANTS)

PUBLIC SECTOR KNOWLEDGE MANAGEMENT RESEARCH QUESTIONNAIRE

(PUBLIC SERVANTS/Ghana)

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Q1	**Contact person/Interviewee and organisation** Interviewee details Title: …….. First Name: …… Surname: …… Name of organisation: …….. Designation: …… No. of years in the public sector: …… Contact details (Business card) Phone…… Mobile: ……; Email: ……; Address:. …… …… …… ……
Q2	**Public sector organisations and knowledge-based activities** A. Do you agree that most of the activities carried out within your ministry/organization are knowledge based – i.e. require information and some expertise/skill to accomplish? • Yes (Please proffer reason(s)) • No (Please proffer reason(s))

B. Do you agree that in some cases knowledge/expertise is more central to what the Government does compared to some private organisations?

- Yes (Please proffer reason(s))

- No (Please proffer reason(s))

C. Do you agree that majority of staff in your ministry/organisation are knowledge workers (i.e. workers required information and know how or knowledge to carry out their day-to-day duties?

Response:

D. Do you think Public Administrators (Ministers, MPs, Chief Executives, Chief Directors, etc) in Ghana recognize the 'knowledge-intensivity' of the public sector; that knowledge, its availability, accessibility and use, is critical in the sector?

Response:

E. Are Public Administrators in Ghana knowledge conscious; i.e. show signs of exploiting the knowledge resources within the sector?

Response:

F. Do Public Administrators in Ghana recognize the value of knowledge in today's competitive business environment?

Response:

G. Do you know of any initiatives/programmes/projects being pursued by some Public Administrators independently (i.e. not nation-wide in form) to make the best use of the knowledge resources within their ministry/organisation? Has any such initiative taken place in your ministry/organisation that you know of? If yes, please give details.

Response:

H. In your opinion is knowledge in your ministry/organisation well managed or harnessed or optimized to improve operational efficiency within the sector?

Response:

I. Do you think the size of your ministry/organisation poses a challenge to making the best use of knowledge resources within? Please, expatiate your answer.

	Response: J. Do you think the range of activities/functions within your ministry/organisation poses a challenge to consciously making the best use of disparate (related but dissimilar) knowledge resources within through intra-organisational collaboration and networking? Response: K. Do you think the complexity (including political exigencies or demands, cultural factors, management style, etc.) of your ministry/organisation is a factor that might account for the lack of any conscious attempt to harness (exploit) knowledge resources within and collaborate/network with other ministries/organisations? Response: L. Can you think of any existing knowledge- and learning-based activity(ies) within your ministry/ organisation; i.e. any programme meant to consciously train, mentor, and/or coach new and old staff? Response:
Q3	**Relevance of Knowledge Management to the Ghanaian public sector** A. The size and complexity of your ministry/organisation dwarfs most private sector companies. What are some of the challenges directly resulting from the size and complexity ofyour ministry/organisation? Response: B. Please provide your opinion on the following in relation to a compelling vision for KM for your ministry/ organisations: • KM and key strategic goals of your ministry/organisation: Will KM be relevant to your ministry/organisation if it facilitates the achievement ofits strategic goals? Response: • Value addition: Will KM be relevant if it enhances operational performance of staff and general operations within your ministry/organisation?

	Response: • Projecting the centrality of knowledge within your ministry/organisation: Will KM be relevant to your ministry/organisation if it raises or improves awareness of the centrality or strategic importance of knowledge within your set up? Response: • Creating or invigorating existing knowledge and learning based activities within your ministry/ organisation: Will KM be relevant if it reinforces the merits of and/or facilitates employee learning and personal development? Response: • Collaboration within the public sector: Will KM be relevant if it promotes collaboration within your ministry/organization; i.e. members of staff having time to share experiences and insights? Do you have departments of agencies in other regions apart from Greater Accra? Response: • Linkage with external knowledge sources: Will KM be relevant to your ministry/organisation if it promotes collaboration and networking with staff from other ministries in Ghana and abroad? Response:
Q4	**Knowledge Management Drivers in the Public Sector** A. Is knowledge dispersed within the public sector? (e.g. lack of uniformity in the application or interpretation of policy, directives, guidelines, etc.) Response: B. To what extent is employee turnover (employees leaving the ministry/organization) a source of knowledge loss to the ministry/organisation? Are there measures in place (e.g. succession plans) to ensure knowledge does not walk out of the door when employees retire, resign or end their term of engagement? If yes, what are some of the measures? Response:

	C. Given the complexity of your ministry/organisation what impact will the introduction of virtual working environment have on operational performance? (i.e. staff being able to work from home and having access to information and knowledge sources, including their computers and the organisation's intranet, from outside the office, e.g. when at conferences or on client's premises) Response: D. Will innovation pay off within your ministry/organisation? (i.e. will providing the environment that nurtures research and development, which results in new products, new processes and new knowledge be useful to your ministry/organisation?) Please, briefly explain your response. Response:
Q5	**Knowledge Management Enablers in the Public Sector** A. KM Competence: How easy or difficult will it be to establish KM as a permanent or at least stable competence or function within your ministry/organization, given the prevailing culture, challenges, etc.? Response: B. Will it be a challenge to win management support to implement a KM initiative – why or why not? What can be done (organisationally or 'regulatorily') to win this support? Response: C. Do you have internet facilities within your ministry/organisation? Is it reliable? Do you have a web site? Do you have an intranet? Do all staff who require a computer for their daily duties have one or can we say staff-to computer-ration is one to one? Where are policy documents, guidelines, and directives kept and in what format (hard or soft copies)? How do members of staff get copies of these documents months or years after issue (if they lose their copies)? Are you aware of the Government of Ghana official web site? Do you think colleague staff members are aware of this web site? Response:

	D. How readily can your ministry/organization provide resources and training to help with KM implementation? Response: E. Will members of staff be resistant to the introduction of new structures, roles and responsibilities as may be required for KM implementation? What can be done to reduce such resistance if it arises? Response: F. Is knowledge accessible within the public sector? (i.e. how easily can members of staff obtain information, operational guidelines and directives, and expert knowledge they need to carry out their daily functions? Are supervisors and Heads of Unit/Sections/Departments easily approachable? Do you have a library, records office, information unit, or a corporate bulleti/newspaper? Response: G. What is the general attitude of public servants towards learning? How can the learning spirit of staff in your ministry/organisation be improved? Response: H. How can members of staff be motivated to participate in communities of practice (CoPs) or special interest groups (SIGs); i.e. groups made up of a section of staff who would take some time off to share ideas and experiences/know how on a particular problem/issue within their Unit/Department or confronting the ministry/organization as a whole? Response:
Q6	**The Potential Benefits of Knowledge Management in the Public Sector** A. How can KM help address some of the challenges faced by your ministry/organization? Response: B. What distinct benefits can your ministry/organization derive from a KM initiative? Response:

	C. What impact will establishing knowledge behaviours and practices (i.e. knowledge culture) within your ministry/organization have on operational efficiency and effectiveness? Response:
Q7	**KM Approach, Tools and Tactics in the Ghanaian Public Sector** A. Given its size and particular character of your ministry/organization, which of the approaches listed below will more easily help to link the KM vision to the strategic goals of the ministry/organisation? Please, provide reasons for your answer. 1. Task-force approach: the organisation having a dedicated KM team. Team members will not be involved in the day-to-day operations of the ministry/organisation; they will be handling or focusing on KM as management practice within your set up. 2. Systems-centred approach: the organisation centering the whole KM initiative on an information system; that is, the deployment of a grant IT infrastructure. 3. The hybrid approach: KM roles embedded in functional positions (or job schedules) so that employees combine their job functions with assigned KM roles. Response:
Q8	**Challenges to KM Implementing in Ghana's Public Sector** A. Stereotyping: Seeing those associated with the KM initiative/project as having undue advantage and influence. How can this unfair judgment be handled constructively or minimized? Response:

	B. Political interference: Antagonism from middle (and even senior management) due to misinterpretation of KM as a mechanism for witch hunting (to expose their incompetence, etc.) or a blatant dislike for the whole idea of KM? How can such an attack be defused? Response: C. How can the trust and confidence of staff be won as far as KM implementation is concerned, noting that humans naturally resist change? Response:
Q9	**Dangers of not Adopting KM** Please comment on the following (indicating whether it a menace/challenge within your ministry/organisation): A. Duplication of efforts and activity by staff working in similar Units/Sections/Depts. Response: B. Inconsistency of interpretation, application or understanding of the same policy document, guidelines, directives. Response: C. Lack of awareness of the whole picture surrounding a particular policy change or challenge Response: D. Loss of knowledge and insight from experienced staff upon leaving or moving organization (due to retirement, resignation, etc.) Response: E. Weakness in ability to share best practice and innovation within your ministry/organisation Response:

	F. Lack of joined-up working by teams made up of staff from your ministry/organisation and different ministries/organisations to addressing a common issue or case Response: G. Inaccurate or out-of-date information being given to the general public Response: H. Failure to adequately measure/determine the outcome of a policy implementation Response: I. Other deficiencies within your ministry/organisation that can be addressed with KM techniques Response:
Q10	**Please provide any comments you may have that will advance the study.** Response:
Q11	**Please, would you be willing to grant me audience if there is the need for a follow up on some of your responses?** Response:

Thank you.

PUBLIC SECTOR KNOWLEDGE MANAGEMENT RESEARCH QUESTIONNAIRE

(Public Administrators/Ghana)

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Q1	**Contact person/Interviewee and organisation (These are for purposes of follow up; interviewees anonymity is guaranteed)** Interviewee details Title…….. First Name……. Surname……. Name of organisation…….. Designation ……. No. of years in the public sector…… Contact details Email……. Mobile…… Address…… ……
Q2	**Public sector organisations and knowledge-based activities** A. Do you agree that most of the activities carried out within public sector organisations are knowledge based – i.e. require information and know how (or expertise) to accomplish? • Yes (Please proffer reason(s)) • No (Please proffer reason(s)) B. What percentage of activities/duties carried out in your set up is knowledge based? Response:

C. Do you agree that in some cases knowledge is more central to what the Government does compared to some private organisations?

- Yes (Please proffer reason(s) and give some instances)

- No (Please proffer reason(s))

D. Do you agree that majority of public servants are knowledge workers (i.e. workers who require information and know how or knowledge to carry out their day-to-day duties?

Response:

E. Can you give a rough percentage of staff within your set up who are knowledge workers?

Response:

F. Do you think public administrators (Office of the President, Ministers, MPs, Chief Executives, Directors, Heads of Depts./Agencies, etc) in Ghana recognize the 'knowledge-intensivity' of the sector; that knowledge, it availability, accessibility and use, is a critical in the public sector?

Response:

G. Are public administrators in Ghana knowledge conscious; i.e. show signs of exploiting the knowledge resources within the sector?

Response:

H. Do public administrators in Ghana recognize the value of knowledge in today's competitive business environment?

Response:

I. Do you know of any initiatives/programmes/projects being pursued by some public administrators independently (i.e. not a nation-wide exercise) to make the best of the knowledge resources within their jurisdiction? Has anything like that happened in your agency/organisation that you know of?

Response:

J. In your opinion is knowledge in the Ghanaian public sector well managed or

	harnessed or optimized to improve operational efficiency within the sector? What is the situation in your organisation? Response: K. Do you think the size of public sector organisations poses a challenge to making the best use of knowledge resources within the sector? Response: L. Do you think the range of activities (i.e. the different ministries, departments and agencies) within the public sector pose a challenge to consciously making the best use of disparate (unrelated or dissimilar) knowledge resources within the sector? Response: M. Do you think the complexity (including political exigencies or demands, regimental structures, etc.) of public sector organisations is a factor that might account for the lack of any conscious attempt to harness (exploit) knowledge resources within the sector? Response: N. Can you think of any existing knowledge and learning based activities within Ghana's public sector; i.e. any programme meant to train, mentor, and/or coach new and old public servants? Response:
Q3	**Relevance of Knowledge Management to the Ghanaian public sector** A. What are some of the strategic goals of your agency/organisation? Response: B. The size and complexity of your agency/organisation dwarfs most private sector companies. What are some of the challenges directly resulting from the size and complexity of the agency/organisation? Response: C. Please provide your opinion on the following in relation to a compelling vision for KM for public sector organizations; i.e. a well set out and though through

	KM initiative tailored to vision and mission of your agency/organisation: • KM and key strategic goals of your agency/organisation: Will KM become relevant to your agency/organisation if it facilitates the achievement of its strategic goals? (Please, provide some details if you answer if the affirmative or not) Response: • Value addition: Will KM be relevant to your agency/organisation if it enhances operational performance within your agency/organisation? Response: • Projecting the centrality of knowledge within your agency/organisation: Will KM be relevant to your agency/organisation if it helps to instill within staff the centrality and strategic importance of knowledge within the set up? Response: • Creating or invigorating existing knowledge and learning based activities within the agency/organisation: Will KM be relevant to your agency/organisation if it reinforces the merits of and/or facilitates employee learning and personal development? Response: • Collaboration within the agency/organisation: Will KM be relevant to your agency/organisation if it promotes collaboration within the agency/organisation; i.e. members of staff having time to share experiences and insights? Do you have offices/outposts in other regions apart from Gt. Accra? Response: • Linkage with external knowledge sources: Will KM be relevant to your agency/organisation if it promotes collaboration and networking with staff from counterpart agencies in the advanced economies? Response:
Q4	**Knowledge Management Drivers in the Public Sector** A. Is knowledge dispersed within your agency/organisation and to what degree? (e.g. Lack of uniformity in the application or interpretation of policy, directives,

guidelines, etc.)

Response:

B. To what extent is employee turnover a challenge to your agency/organisation? Are there measures in place (e.g. succession plans) to ensure knowledge does not walk out of the door when employees retire, resign or end their term of engagement with your agency/organisation? If yes, what are some of the measures?

Response:

C. Is your agency/organisation required to offer competitive services to its clients (local and foreign); i.e. efficient and value-for-money services as normally required within the private sector which is profit oriented? What are some of these services?

Response:

D. Given the size and complexity of your agency/organisation what impact will the introduction of virtual working environment (staff being able to work out of the office; e.g. able to access their desk top and the agency/organisation intranet from home or at a conference, and having access to external knowledge sources) have on operational performance?

Response:

E. Will innovation pay off within your agency/organisation? That is, will providing the environment that nurtures research and development and rewards inventiveness, which may result in new product development, new processes and new knowledge or skill or expertise be useful to your agency/organisation? Please, explain how this environment will be useful to your agency/organisation in terms of your mandate?

Response:

F. Is there a need to achieve uniformity in the application and interpretation of policy documents, guideline, directive, etc? Can you readily cite an instance where the same policy document has been interpreted differently by staff of your agency/organisation in different regions outposts?

Response:

G. Is there the need to improve policy implementation within your agency/organisation? (e.g. has the client service 'scheme' achieved the desired impact within your agency/organisation? Can you mention a government policy that has not been implemented to your satisfaction (i.e. the objectives

	were not met)? Response:
Q5	**Knowledge Management Enablers in the Public Sector** A. KM Competence: How easy or difficult will it be to establish KM as a permanent or at least stable competence or function within your agency/organisation given the nature of your set up? Response: B. Will it be a challenge to win management support to implement a KM initiative – why or why not? What can be done (organisationally or 'regulatorily') to win this support? Response: C. Do you have internet facilities within your agency/organisation? Response: D. Do you have a web site? Response: E. Do you have an intranet? Response: F. Do all staff who require a computer for daily duties have one? Can we say staff-to-computer ratio is one to one? Response: G. Where are policy document, guidelines, directives kept and in what format? How are these documents circulated to staff? How do staff get copies of these documents months or years after issue (if they lose their copies)? Response: H. Are you aware of the Government of Ghana official web site? Do you think members of staff are aware of this site? Response:

I. How readily can your agency/organisation provide resources and training to help with KM implementation?

Response:

J. Can your agency/organisation tap into any funding set aside for capacity building or some such special initiatives for KM? Is funding from international development (donor) partners possible?

Response:

K. Will your agency/organisation be resistant to the introduction of new structures, roles and responsibilities as may be required for KM implementation? What can be done to reduce such resistance if it arises?

Response:

L. Does your agency/organisation have well laid out organisational strategy comparable to those of private organisations?

Response:

M. Do you see KM facilitating the outcome of the strategy of your agency/organisation?

Response:

N. What resistance or challenges do you perceive in trying to facilitate the agency/organisation's strategic objectives with KM?

Response:

O. Is knowledge accessible within your agency/organisation? (i.e. how easily can staff obtain information and expert knowledge they need to carry out their daily functions)?

Response:

P. Are supervisors and Heads of Unit easily approachable?

Response:

Q. Do you have a library, records office, information unit, agency/organisation bulletin, etc?

Response:

R. What is the general attitude of staff of your agency/organisation towards learning? How can the learning spirit of the staff of your agency/organisation be improved?

Response:

S. Is recruitment into the agency/organisation systematic; the right people being employed to fill the right roles?

Response:

T. Is innovativeness/inventiveness and knowledge awareness part of the recruitment criteria within your agency/organisation?

Response:

U. Has there ever been an exercise to measure knowledge awareness of staff in your agency/organisation? (I.e. staff familiarity with their own jobs: the expert knowledge and insight they are supposed to have and display)

Response:

V. Would your agency/organisation require special permission to set up communities of practice (CoPs) or special interest groups (SIPs); i.e. a section of staff who would take time off to share experiences/ideas and know how on a particular problem within their Units or confronting the agency/organisation as a whole? Would granting time and facilities for these groups to meet and share knowledge require any special permission from the public services commission or some other authority?

Response:

W. Can the agency/organisation set up and resource these groups by itself if seen as a strategic move?

Response:

X. Does your agency/organisation have quality assurance units/systems or quality assurance procedures, guidelines and monitoring activities in place to ensure to ensure that services and/or duties are performed to the requisite standard? If yes, can you elaborate on the systems/procedures?

Response:

Q6	**The Potential Benefits of Knowledge Management in the Public Sector** A. What distinct benefits will the challenges of your agency/organisation draw from adopting KM approaches and techniques? Or can any of the challenges you face as an agency/organisation be addressed by introducing KM? Response: B. What distinct benefits will activities/operations/schedules carried out within your agency/organisation draw from adopting KM approaches and techniques? Response: C. KM impact: What impact (or direct benefit) will establishing knowledge behaviour and knowledge practices (i.e. knowledge culture) within your agency/organisation have on operational efficiency and effectiveness? Response: D. Have you implemented any policy in the recent past (or in the past)? If yes, which policy and how were you able to tell whether the desired/expected outcome(s) was achieved? Response: E. If KM is established in your agency/organisation, how will the positive impact be communicated to other agencies/public sector organisations? Response:
Q7	**KM Approach, Tools and Tactics in the Ghanaian Public Sector** Given its size and complexity, which of the approaches listed below will more easily help to link the KM vision to the strategic goals of the organisation? Please, provide reasons for your answer. 1. Task-force approach: the organisation having a dedicated KM team. Team members will not be involved in the day-to-day operations of the organisation; they will be handling or focusing on KM as management practice. 2. Systems-centred approach: the organisation centering the whole KM initiative on a system; that is, the deployment of a grant IT

	infrastructure. 3. The hybrid approach: KM roles embedded in functional positions so that employees combine their job functions with assigned KM roles. Response:
Q8	**Challenges of Implementing KM in Ghana's Public Sector** A. Stereotyping: Seeing those associated with the KM initiative as having undue advantage and influence or trying to show off. How can this unfair judgment be handled constructively or how can it be avoided in your agency/organisation? Response: B. Political interference: Antagonism from middle (and even senior management) due to misinterpretation of KM as a mechanism for witch hunting (to expose their incompetence)? How can such an attack be defused in your agency/organisation? Response: C. How can the trust and confidence of staff be won as far as KM implementation is concerned, noting humans natural resistance to change? Response: D. Are you aware of any existing regulation that can serve as an impetus for your agency/organisation to pilot a KM programme? Response:
Q9	**Dangers of not Adopting KM** Please comment on the following (indicating whether it a menace within your agency/organisation): A. Duplication of efforts and activity by officials working in similar fields or on the same subject

	Response: B. Inconsistency of approach or understanding of the same policy document, guidelines, directives Response: C. Lack of awareness of the whole picture surrounding a particular policy challenge Response: D. Loss of knowledge and insight from experienced officials upon leaving or moving agency/organisation Response: E. Weakness in ability to share best practice and innovation Response: F. Lack of joined-up working by public sector teams in different organisations addressing a common issue or case Response: G. Inaccurate or out-of-date information being given to the general public Response: H. Failure to adequately measure/determine the outcome of a policy implementation Response: I. Other deficiencies within your agency/organisation that can be addressed through KM techniques Response:
Q10	**Please provide any comments you may have that will advance the study.**
	Please, would you be willing to grant me audience if there is the need for a follow up

Q11	**in the course of my research?** • **Yes** • **No**

Thank you.

PUBLIC SECTOR KNOWLEDGE MANAGEMENT RESEARCH QUESTIONNAIRE

(POLICY MAKERS/Ghana)

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Q1	**Contact person/Interviewee and organisation** Interviewee details Title:…….. First Name: …… Surname: …… Name of organisation: …….. Designation: …… No. of years in the public sector: …… Contact details (Business card) Email: …… Mobile: …… Address: …… ……
Q2	**Public sector organisations and knowledge-based activities** A. Do you agree that most of the activities carried out within public sector organisations are knowledge based? • Yes (Please proffer reason(s)) • No (Please proffer reason(s)) B. Do you agree that in some cases knowledge is more central to what the Government does compared to some private organisations? • Yes (Please proffer reason(s)) • No (Please proffer reason(s))

C. Do you agree that majority of public servants are knowledge workers (i.e. workers who are required to apply information/knowledge in their day-to-day duties?

Response:

D. Do you think Public Administrators (Ministers, MPs, Chief Executives, Chief Directors, etc) in Ghana recognize the 'knowledge-intensivity' of the sector; that knowledge, its availability, accessibility and use, is critical to the sector?

Response:

E. Are Public Administrators in Ghana knowledge conscious; i.e. show signs of exploiting the knowledge resources within the sector?

Response:

F. Do Public Administrators in Ghana recognize the value of knowledge within today's business environment?

Response:

G. Can you think of any initiative proposed by a Public Administrator independently, (not a national programme) with the view to making the best use of the knowledge resources within his/her jurisdiction?

Response:

H. In your opinion is knowledge in the Ghanaian public sector well managed or harnessed or optimized to improve operational efficiencies?

Response:

I. Does the size of public sector organisations poses a challenge to making the best use of knowledge resources within the sector?

Response:

J. Does the range of activities/functions within the public sector poses a challenge to consciously making the best use of disparate (unrelated or dissimilar) knowledge resources within the sector?

Response:

K. Do you think the complexity of public sector organisations (political exigencies, cultural and sub-cultural 'norms', etc.) is a factor that might account for the lack of any conscious attempt to harness (exploit) knowledge resources within the

	sector? Response: L. Can you mention any existing knowledge- and learning-based activity(ies) within Ghana's public sector; i.e. any programme meant to consciously train, mentor, and/or coach new and old public servants? Response:
Q3	**Relevance of Knowledge Management to the Ghanaian public sector** A. What are some of the strategic goals of the public sector? Response: B. The size and complexity of the public sector dwarfs most private sector companies. What are some of the challenges directly resulting from the size and complexity of the public sector? Response: C. Please provide your opinion on the following in relation to a compelling vision for KM for public sector organizations; i.e. a well set out and thought through KM initiative tailored to the vision and mission of public sector organization: • KM and key strategic goals of the public sector: Will KM be relevant to the public sector if it facilitates the achievement of its strategic goals? Response: • Value addition: Will KM be relevant to the public sector if it enhances operational performance of staff? Response: • Projecting the centrality of knowledge within the public sector: Will KM be relevant to the public sector if it raises or improves awareness of the centrality or strategic importance of knowledge within the public sector? Response: • Creating or invigorating existing knowledge and learning based activities within the public sector: Will KM be relevant if it reinforces

	the merits of and/or facilitates employee learning and personal development? Response: • Collaboration within the public sector: Will KM be relevant to your ministry/organization if it promotes collaboration within your set up; i.e. members of staff having time to share experiences and insights? Do you have departments and/or agencies in other regions apart from Greater Accra? Response: • Linkage with external knowledge sources: Will KM be relevant to the public sector if it promotes collaboration with staff from other ministries/organizations within Ghana and abroad? Response:
Q4	**Knowledge Management Drivers in the Public Sector** A. Is knowledge dispersed within the public sector? (e.g. lack of uniformity in the application or interpretation of policy, directives, guidelines, etc.) Response: B. To what extent is employee turnover a source of knowledge loss within the public sector? Are there measures in place (e.g. succession plans) to ensure knowledge does not walk out of the door when employees retire, resign or end their term of engagement? Response: C. Is the Ghanaian public sector required to offer competitive service? (Do the current public sector reforms require public servants to offer services to the standards normally required of the private sector? Response: D. Given the complexity of the public sector what impact will the introduction of virtual working environment (within and between organisations) have on operational performance? (i.e. staff being able to work from home and having access to information and knowledge sources (including their office computers and organisation's intranet) from outside the office, e.g. when at conferences

	or on client's premises) Response: E. Will innovation pay off within Ghana's public sector? (i.e. will providing the environment that nurtures research and development, which results in new products, new processes and new knowledge be useful in Ghana's public sector?) Response: F. Is there the need to achieve uniformity in the application and interpretation of policy within Ghana's public sector? Response: G. Is there the need to improve policy implementation within the public sector? (e.g. has the client service 'scheme' achieved the desired impact within Ghana's public administration?) Response: H. Does the public sector need a system that will support and facilitate organisational change (that usually) underpin strategic goals (e.g. those proposed by the Public Sector Reforms programme)? Response:
Q5	**Knowledge Management Enablers in the Public Sector** A. KM Competence: How easy or difficult will it be to establish KM as a permanent or at least stable competence or function within Ghana's public sector? Response: B. Will it be a challenge to win management support to implement a KM initiative – why or why not? What can be done (organisationally or 'regulatorily') to win this support? Response: C. Are you aware of the current Government policy on ICT? How realistic is the policy? It is sustainable? Response: D. What challenges are likely to be encountered in an attempt to set up a systematic organisational knowledge processes within the public sector? To

what extent does it take special arrangements to change processes within public sector organisations – legal, parliamentary, etc?

Response:

E. How easily can public sector organisations provide resources and training to help with KM implementation? Can public sector organisations tap into any funding set aside for capacity building or some such special initiatives for KM? Is funding from international development (donor) partners possible?

Response:

F. Will Ghana's public sector be resistant to the introduction of new structures, roles and responsibilities as may be required for KM implementation? What can be done to reduce such resistance if it arises?

Response:

G. Do public sector organisations have well laid out organisational strategy comparable to those of private organisations? If yes, what will it take to align a KM strategy to such organisational strategy? What resistance may ensue in the pursuit of such alignment?

Response:

H. Is knowledge accessible within the public sector? (i.e. how easily do employees obtain information, operational guidelines and directives, and expert knowledge they need to carry out their daily functions?

Response:

I. What is the general attitude of public servants towards learning? How can the learning spirit of the public servant be improved?

Response:

J. Is recruitment in the public sector systematic? Is innovativeness and knowledge awareness part of the recruitment criteria within the public sector? How easily can these elements be incorporated and measured?

Response:

K. Would public sector organisations require special permission to set up communities of practice (CoPs) or special interest groups (SIPs) – voluntarily constituted groups of public servants who meet to share experiences, challenges and new knowledge discovered? Would granting time and facilities for these groups to meet and share knowledge require any special permission

	from the public services commission or any such body? Response: L. Do public sector organisations have quality assurance units/systems in place? Do sector Ministries have instituted quality assurance procedures, guidelines and monitoring activities? Response:
Q6	**The Potential Benefits of Knowledge Management in the Public Sector** A. What distinct benefits will the challenges faced by Ghana's public sector draw from adopting KM approaches and techniques? What distinct benefits will the day-to-day operations within the public sector draw from adopting KM approaches and techniques Response: B. KM impact: What impact (or direct benefit) will improved knowledge behaviour and knowledge practices (i.e. knowledge culture) within and across public sector organisations have on the sector's efficiency and effectiveness? Response: C. How can the potential benefits of KM to the public sector be communicated effectively within the public sector? Response: D. What special contribution will a KM initiative make to Ghana's quest to become a knowledge-based economy? Response: E. What contributions will KM make to Ghana's public sector in regard to the New Public Administration (optional) Response: F. What contribution will KM make to Ghana's public sector reforms? Response:

Q7	**KM Approach, Tools and Tactics in the Ghanaian Public Sector** A. Given its size and complexity, which of the approaches listed below will more easily help to link the KM vision to the strategic goals of the organisation? Please, provide reasons for your answer. 1. Task-force approach: the organisation having a dedicated KM team. Team members will not be involved in the day-to-day operations of the organisation; they will be handling or focusing on KM as management practice. 2. Systems-centred approach: the organisation centering the whole KM initiative on a system; that is, the deployment of a grant IT infrastructure. 3. The hybrid approach: KM roles embedded in functional positions so that employees combine their job functions with assigned KM roles. Response: B. Are you aware of the system options that the e-Government project will offer public sector organisations? Response: C. What distinct ICT challenges face the public sector? (Level of computerization, Access to the internet, intranet for organisations, etc. Response: D. Should KM be a management practice or a system implementation within the public sector? Response:
Q8	**Challenges to KM Implementing in Ghana's Public Sector** A. Technological challenges: What programme(s) is the Government pursuing nationally or sectorally that will improve ICT penetration in the public sector? What can individual public sector organisations do to enhance their connectivity? Does the ICT Policy for Accelerated Development offer any hope? Response:

	B. Cultural challenges: What threats does the current culture within the public sector pose to KM implementation? Is culture change possible within the public sector given the increasing demand for accountability and professionalism within the sector globally? Can global trends in public administration be localized in Ghana as a way of instilling change? Response C. Stereotyping: Seeing those associated with the KM initiative as having undue advantage and influence. How can this unfair judgment be handled constructively or minimized? Response: D. Political interference: Antagonism from middle (and even senior management) due to misinterpretation of KM as a mechanism for witch hunting (to expose their incompetence, etc.)? How can such an attack be defused? Response: E. How can the trust and confidence of staff be won as far as KM implementation is concerned? Response: F. Which authority (Ministry, Department or Agency) can serve as a 'chaperon' for the KM from the research stage to the implementation stage? Response: G. Can public sector organisations interested in piloting a KM receive support from the office of the public sector reforms or some other relevant ministry? Response: H. Is there any existing regulation that can serve as an impetus for public sector organisations wishing to pilot a KM programme as a means of capacity building. Response:
Q9	**Dangers of not Adopting KM** Please comment on the following (indicating whether it a menace/challenge within the

	public service): A. Duplication of efforts and activity by officials working in similar fields Response: B. Inconsistency of approach or understanding of the same policy area Response: C. Lack of awareness of the whole picture surrounding a particular policy challenge Response: D. Loss of knowledge and insight from experienced officials upon leaving or moving organisation Response: E. Weakness in ability to share best practice and innovation Response: F. Lack of joined-up working by public sector teams in different organisations addressing a common issue or case Response: G. Inaccurate or out-of-date information being given to the general public Response: H. Failure to adequately measure/determine the outcome of a policy implementation Response: I. Lack of evidence-based policy making Response: J. Undue delay in responding to information request Response: K. Limited access to operational guidelines and directives Response:

	L. Lack of scenario planning and early warning systems Response: M. Other deficiencies within the public sector that can be addressed using KM techniques Response:
Q10	**Please provide any comments you may have that will advance the study.** Response:
Q11	**Please, would you be willing to grant me audience if there is the need for a follow up in the course of my research?** Response:

Thank you.

APPENDIX 6 – INTERVIEW QUESTIONNAIRE (IT EXPERTS)

PUBLIC SECTOR KNOWLEDGE MANAGEMENT RESEARCH QUESTIONNAIRE

(NATIONAL IT AGENCY/Ghana)

Edwin AsiamahAcheampong

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Q1	**Contact person/Interviewee and organisation** Interviewee details Title: …….. First Name: ……. Surname: ……. Name of organisation: …….. Designation: ……. No. of years in the public sector: …… Contact details (Business card) Phone…… Mobile: ……; Email: ……; Address:. …… …… …… ……
Q2	**Existing Systems and KM Technologies** A. Please can you provide an overview of the infrastructure/system(s) deployed by your agency: the components, technologies and functionality? Response: B. What types/forms of data/information can your system hold/support? Response:

	C. Is your system compatible with mobile devices (PDA, etc.)? If yes, which types do your systems support? If no, how can this compatibility be introduced? Response: D. Can your system support corporate intranet and corporate extranet? Response: E. What type of applications can your system support? Can your system support online collaboration tools (including teleconferencing, video conferencing, discussion forums, etc.)? Can it support online learning tools? If this facility is not available, how can systems being deployed be enhanced to support them? Response: F. Can systems being deployed by NITA be upgraded (integrated with other systems/technologies/software) to support data warehousing, knowledge repositories, (e.g. thesaurus), document management systems, workflow tracking system, search technologies, and expert systems (artificial intelligence)? Response: G. Which ministries, departments and agencies do you closely work with? Response: H. What role is NITA playing in the on-going e-Gov project intended to link the activities of Ghana Revenue Authority and the Registrar General's Department? Response: I. Is NITA in a position to meet special systems requirements of ministries, departments and agencies in respect of special initiatives that may require specific systems? Response:
Q3	**KM Approach and Tactics in the Ghanaian Public Sector** A. Are you able to support an MDA to acquire a grand IT infrastructure for an initiative such as knowledge management? Response:

Q4	**ICT Challenges in Ghana's Public Sector** A. Generally, what ICT challenges do ministries, departments and agencies (MDAs) in Ghana face? Response: B. As an agency mandated to provide IT infrastructure to the public sector, what are some of the challenges you face? If there are financial challenges, what is the nature of this challenge? How can the MDAs themselves help to address financial challenges in ICT provision and its maintenance in the sector? Response: C. What administrative (in relation to the overseeing ministry and relevant departments and agencies) and technical (systems and infrastructural) challenges do you face as an agency? How can these challenges be addressed? Response: D. Is staff competency a challenge in your agency? If no, how do you ensure you have the right caliber of staff and if yes, how can this challenge be addressed? Response:
Q5	**Ghana's ICT Policy** A. What is your general opinion on Ghana's ICT Policy for Accelerated Development? Response: B. In your opinion, do we have the right people at the helm of affairs as far as achieving the tenets of the ICT `Policy is concerned? Response: C. What precautions must Ghana/Government take to ensure the policy delivers what it is intended to deliver? Response: D. Will the lack of provision of adequate computing equipment jeopardize the policy?

	Response: E. Do you have any special observation/reservation about the ICT policy? Response
Q6	**Please provide any comments you may want to make about the KM research and/or Ghana's ICT Policy and NITA's mandate** Response:
Q7	**Please, would you be willing to grant me audience if there is the need for a follow up on some of your responses?** Response:

Thank you.

APPENDIX 7 – SELECTED ABSTRACTS (UNPUBLISHED JOURNAL ARTICLES)

APPENDIX 7(A): THINKING KM IN THE GHANAIAN PUBLIC SECTOR: LESSONS FROM UK

The KM field is growing in epistemology and maturing in practice. Some writers convey the subject's concepts and theories in predominantly private sector context. This apparent skew in the interpretation of the business value of KM is however acknowledged in the KM literature. Public sector KM, especially in developed economies including the UK, is well advanced in some public sector organisations (PSOs). In the UK, PSOs have deployed and continue to deployed KM practices to varying degrees and their impact on the sector's performance is well documented.

The high expectation of the Government and stakeholders, usually prescribed in public sector reform initiatives, continues to press UK's PSOs to nurture and develop organisational knowledge, as a unique resource in the knowledge economy. Developing economies are not left out in the demands of the knowledge economy. The World Bank and other development partners are helping Ghana and other African countries to transition into the knowledge economy through knowledge for development workshops. Ghana participated in one of such workshops over a decade ago and the country is making fledgling efforts to become a knowledge society.

One constituency that can champion knowledge culture in Ghana is the public sector – the largest employer of the country's workforce and hence knowledge workers. And, lessons from PSOs in UK will be handy for any attempt to initiate KM as a stable or permanent competence in the Ghanaian public sector.

DESIGN

A case study design is employed involving seven PSOs in UK. Relevant organisational factors and conditions that affect KM in the public sector were compiled through in-depth interviews. With the help of the data analysis method of the grounded theory, the factors and conditions were constantly compared and abstracted. Categories were determined and their relationships established.

FINDINGS/RESULTS

Factors and conditions deemed to affect KM in PSOs included Government reforms, evidence-based policy, knowledge dispersion, senior sponsorship, policies, politics, bureaucracy, strategic alignment, business processes, KM universe and infrastructure – technological and physical. These factors and conditions were categorised into four core organisational dimensions that affect KM. Based on this categorisation, a practice KM framework was develop to put the KM factors in perspective. It was observed that KM would become relevant to the public sector if it will help to solve some of the complex challenges the sector faces. Again, beyond the establishing a rationale, the study revealed that some factor and conditions should be firmly secured before embarking of a KM programme in the public sector. On the whole, the findings provide a good lesson for Ghana in its quest to trail-blaze KM in the public sector.

IMPLICATIONS

The findings provide public administrators in Ghana with a pragmatic strategic option to create, share and utilise organisational knowledge for improved performance. The developed framework and the implementation guide, on the other hand, provide a context for further discourse on public sector KM in developing economies.

APPENDIX 7(B): SENIOR SPONSORSHIP: AN INIMITABLE FACTOR IN PUBLIC SECTOR KM

Purpose/Background

Public sector KM is gaining popularity as Governments and KM practitioners continue to explore ways of increasing its relevance and to understand how it should be designed and deployed in the sector for the best results. With the field maturing, KM practitioners in both public sector organisations and their private counterparts are seeking ways of sustaining KM by way of learning more about the factors and conditions that promote the initiative, especially in the former. A research undertaken to compile organisational factors that influence KM in the public sector gathered a solid body of evidence that senior sponsorship is inimitable or a unique factor as far as KM in the sector is concerned, both at the project stage and at the implementation stage. Senior sponsorship refers to top management involvement in the KM initiative – both materially and practically. Senior sponsorship should be lobbied and secured even before communicating the need and value of KM to management an across the organisation.

This paper presents and discusses senior sponsorship in light of the other factors and condition identified as influencing KM in the public sector. Strategies for courting and sustaining senior sponsorship are suggested.

DESIGN

A case study design is employed involving seven PSOs in UK. Knowledge managers in the studied organisations were interviewed to ascertain the role of senior sponsorship in their respective KM programmes. The empirical data was analysed using content analysis to identify, select and measure he different roles senior sponsorship plays.

FINDINGS/RESULTS

Senior sponsorship plays two roles in the KM programme:

- Helps to evangelise it need for the organisation
- Helps to sustain change management
- Helps to drive the anticipated changed in culture which should be top management led
- Helps to reduce inhibitors to organisational knowledge culture – policy, politics and bureaucracy.
- The lubricant in the whole KM process

IMPLICATIONS

For developing economies that want to embark on KM as an organisational strategy, the role of senior sponsorship should be understood, engaged and applied in context. Courting senior sponsorship sustainably should be one of the strategies of KM teams in PSOs.

APPENDIX 7(C): ASYMMETRIC INCENTIVES: A MAJOR THREAT TO PUBLIC SECTOR KM

Purpose/Background

The catalytic role of incentives in KM, usually in the form of rewards and recognition, cannot be overemphasized. Employees feel empowered and particularly incentivised if their knowledge contribution is acknowledged and rewarded. The cultural orientation of the private sector makes the recognition and promotion of employee skill an important aspect of corporate governance. Workers are given the room to be innovative at executing their jobs with the ultimate aim of shoring up the competitiveness of the business. Incentives within the public sector is asymmetric – punishes unsuccessful innovations much more severely than they reward innovations that are successful – largely due to institutional policies. This broad description of asymmetric incentives has many connotations far beyond ingenious actions that cause financial loss to the organisation. Asymmetric incentives in the form of policies that kill initiative and more often than not dampen knowledge culture and work spirit among employees are more endemic in PSO in developing countries.

This paper explores the sources and characteristics of asymmetric incentives in the public sector and traces their direct and indirect impact on KM initiatives in the sector. Recommendations to minimise its negative effects on building intellectual capital are also made.

DESIGN

Asymmetric incentives emerged as one of the inherent traits of policies governing public sector organisations during as multisite case study to determine organisational factors that affect KM in the public sector. Empirical material collected through in-depth interviews from the two case sites – Ghana and UK – pointed to this subterranean culture that militates against innovation, and that presents a threat to KM in the sector. Data analysis, using grounded theory, yielded several factors that influence KM and were categorised into four groups. The influence of asymmetric incentives on these KM factors and conditions was also analysed.

FINDINGS/RESULTS

The public sector and private sector were found to be fundamentally different in terms of institutional aims, structure and culture. The cultural orientation of private organisations and their competitive outlook places employee innovation at the centre of business processes. Optimising process knowledge through innovative ideas is encouraged and rewarded. On the other hand, within public sector organisations, there is not motivation to create efficient business processes due to absence of direct competition. Added to this, there is no incentive to use existing skills. This was traced to asymmetric incentives that characterise the public sector.

For the KM team that want to champion knowledge culture in the public sector, this adverse character presents a herculean challenge. Knowledge exploration and exploitation would suffer if asymmetric incentives were not curbed through the cultivation of senior sponsorship.

The threat of asymmetric incentives would be intense in the more traditional areas of the public sector. Government Departments and Divisions that are considered knowledge intensive and where use of existing and external knowledge resources are encouraged, asymmetric incentives appeared to be minimal.

IMPLICATIONS

KM teams in public sector organisations should recognise and measure the existence of asymmetric incentives in whatever shape or form and develop strategies to curb their clamp on the cultivation of knowledge culture. Every opportunity should be sought to influence internal policies to make them amenable to knowledge creation, sharing and utilisation.